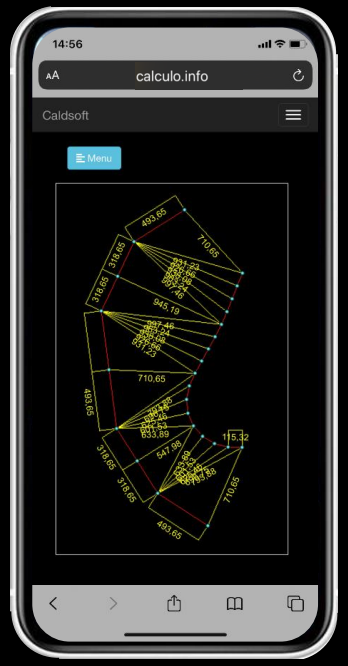
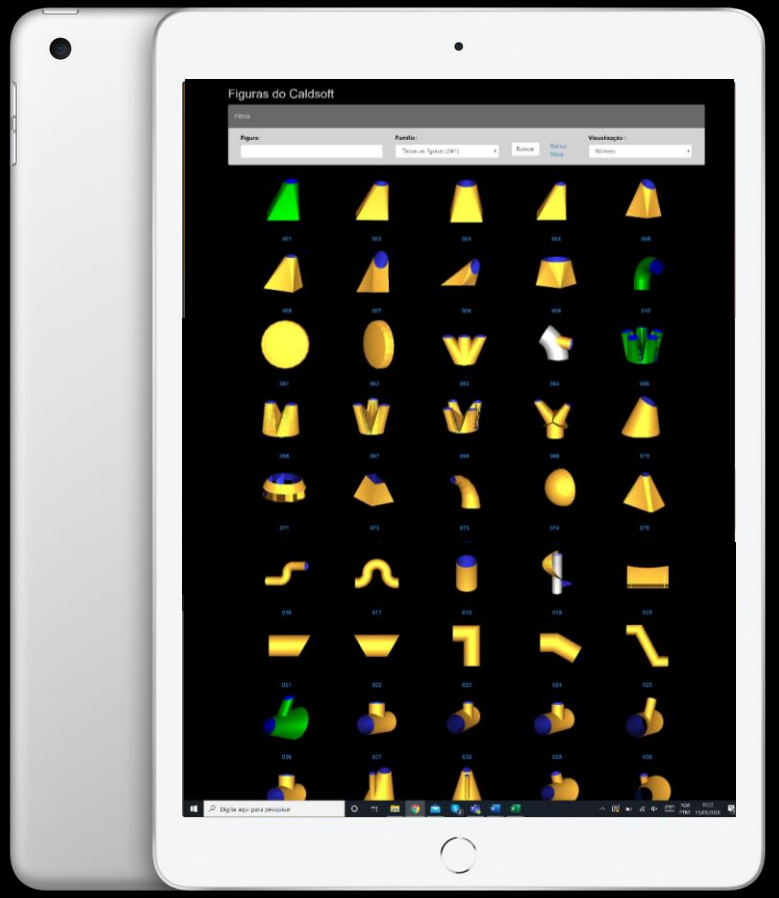
# CSC (235 figuras)

## Com atualização e ampliação constantes



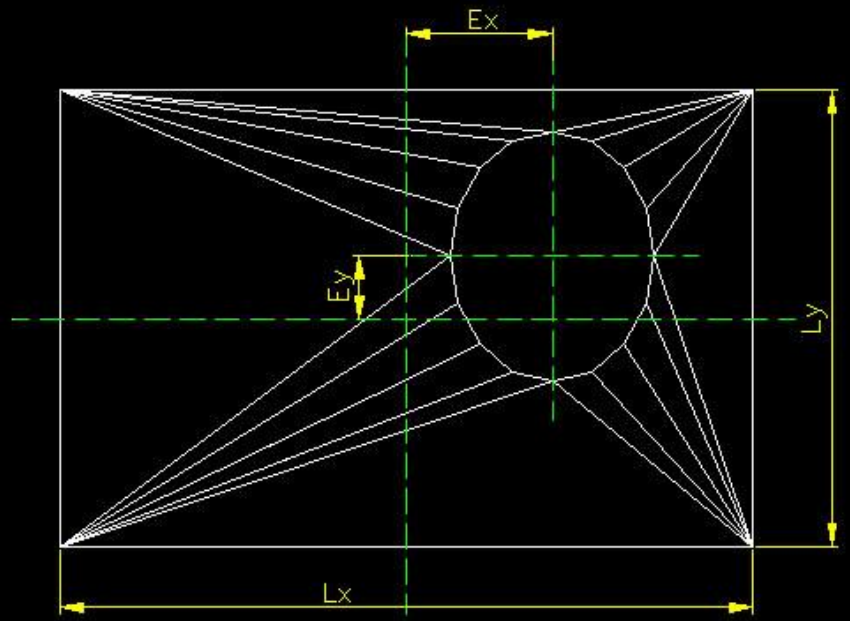

**Na sequência o exemplo de telas de apenas 100 figuras.**

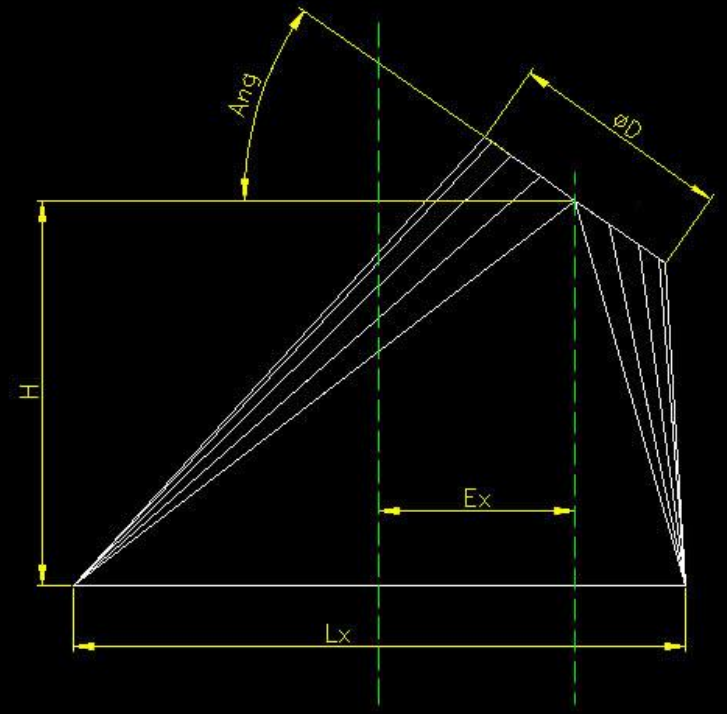
**No final do document existe uma listagem das 235 figuras.**

Caldsoft

# 001 - Transição Ret/Red Genérica

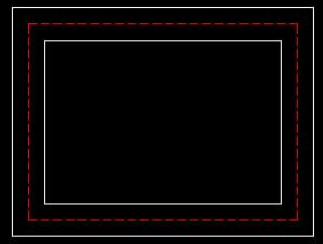
| | |
|---|---|
| Lx | 2000 |
| Ly | 800 |
| D | 500 |
| H | 700 |
| Ex | 100 |
| Ey | 180 |
| Ang | 20 |
| N div | 16 ... |
| Qtd | 1 |
| Método | N |
| Calcular 3D | Sim |
| e | 12,7 (Aço) ... |

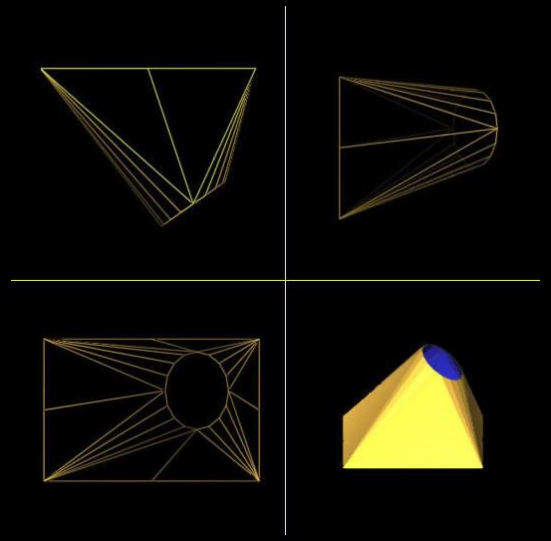


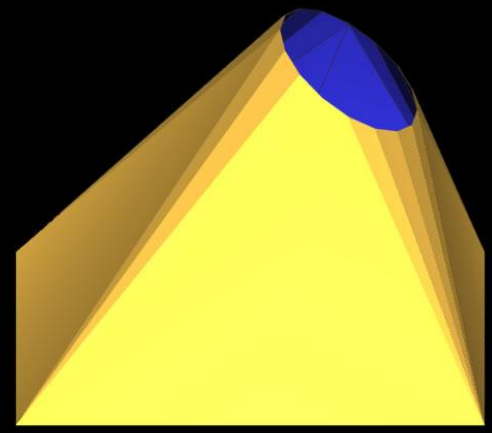




N

R

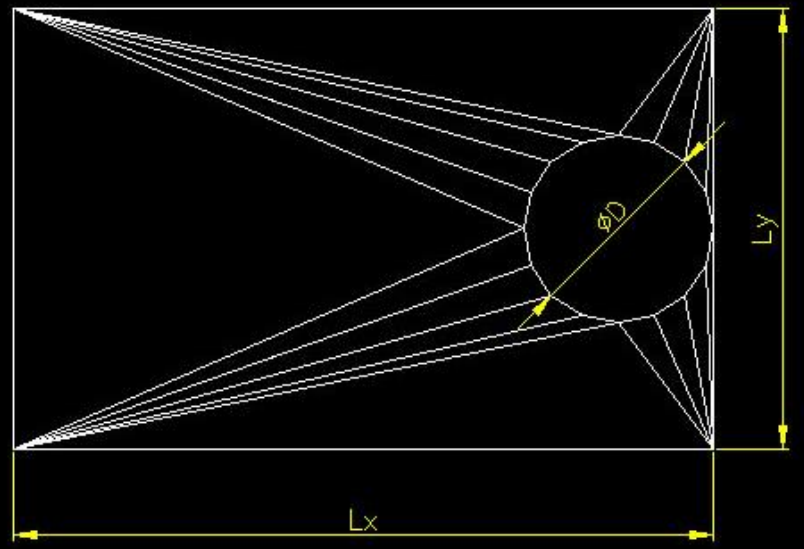


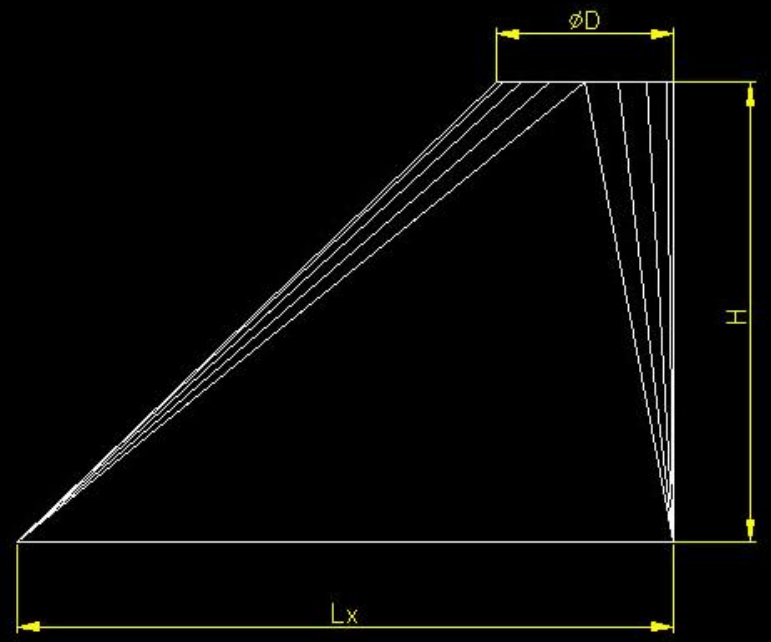


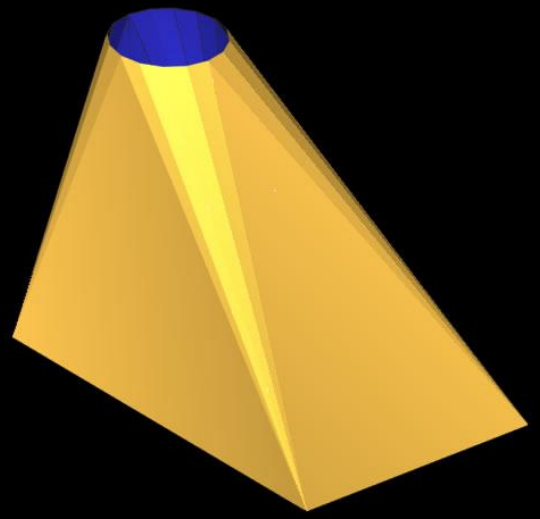


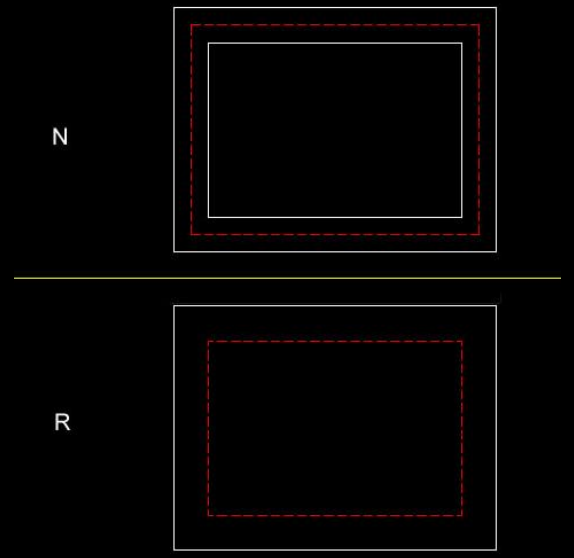
# 002 - Transição Ret/Red Alinhada

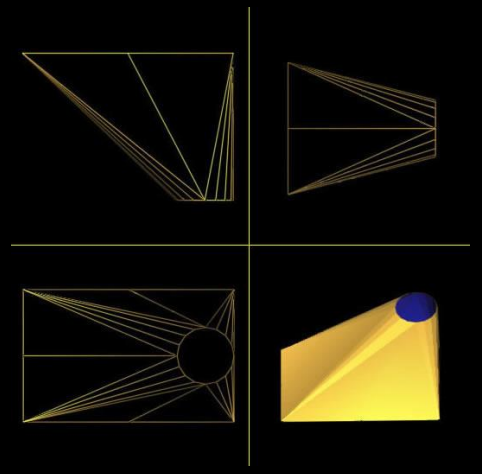
| | |
|---|---|
| Lx | 350 |
| Ly | 250 |
| D | 150 |
| H | 400 |
| N div | 16 ... |
| Qtd | 1 |
| Método | N |
| Calcular 3D | Sim |
| e | 1 (Aço) ... |



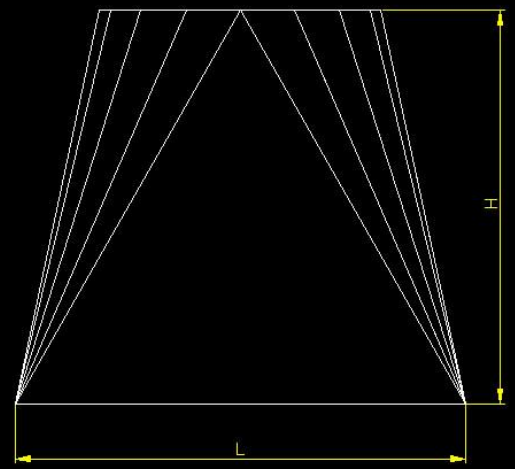



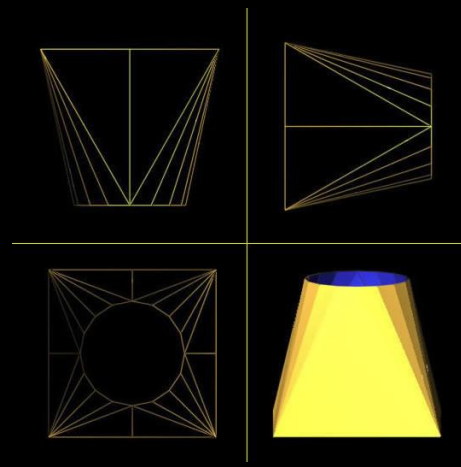


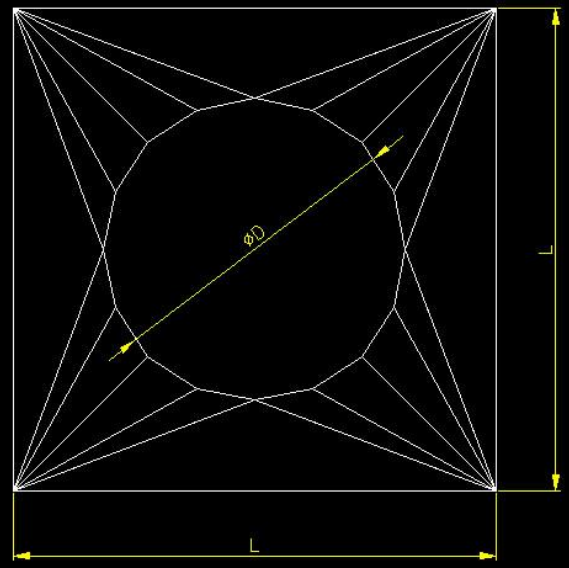



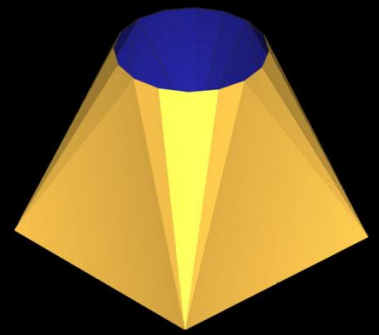
# 003 - Transição Quadrado Redondo

| | |
|---|---|
| **L** | 1000 |
| **D** | 400 |
| **H** | 875 |
| **N div** | 16 ... |
| **Qtd** | 1 |
| **Método** | N |
| **Calcular 3D** | Sim |
| **e** | 12,7 (Aço) ... |



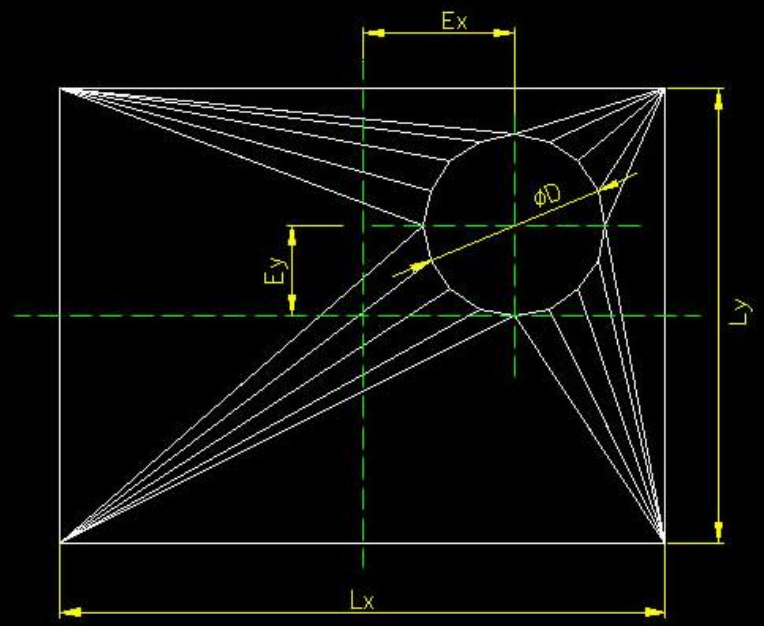



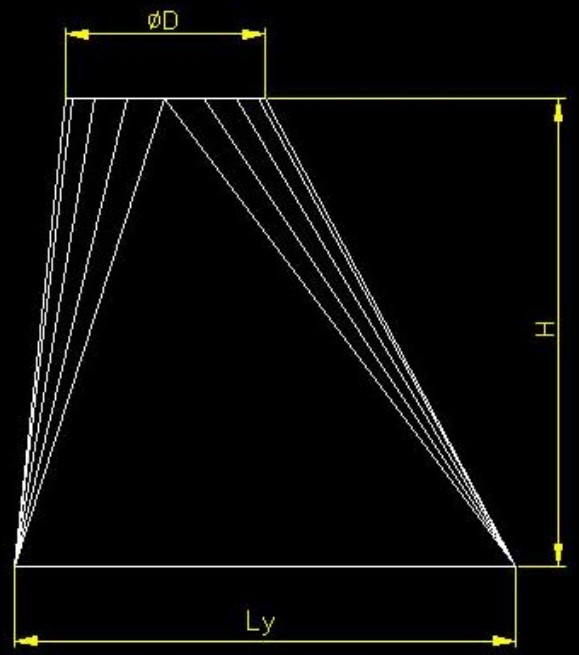


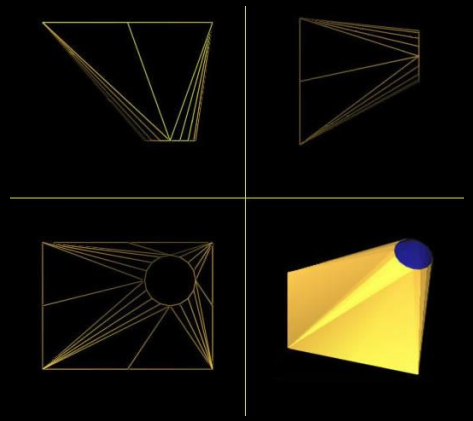



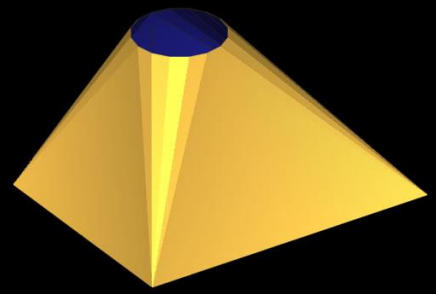
# 006 - Transição Retângulo Redondo

| | |
|---|---|
| Lx | 800 |
| Ly | 600 |
| D | 300 |
| H | 800 |
| Ex | 150 |
| Ey | 100 |
| N div | 16 ... |
| Qtd | 1 |
| Método | N |
| Calcular 3D | Sim |
| e | 12,7 (Aço) ... |



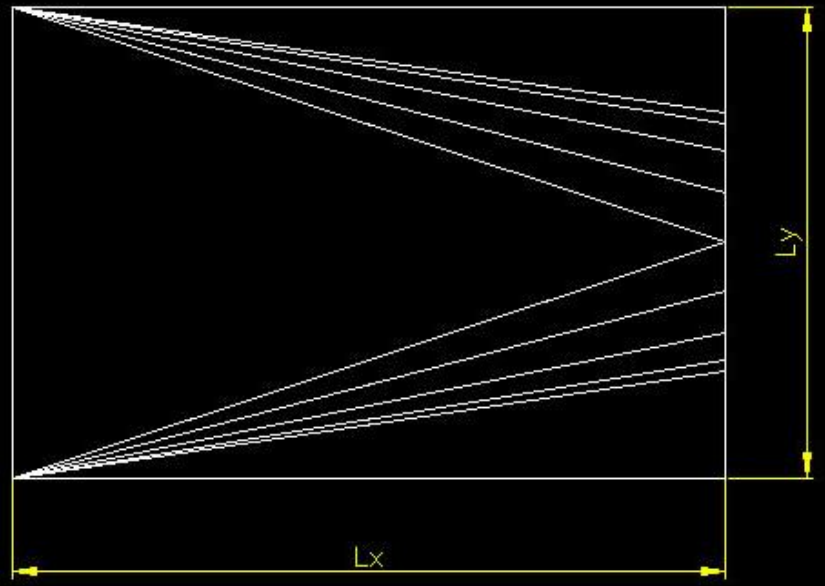



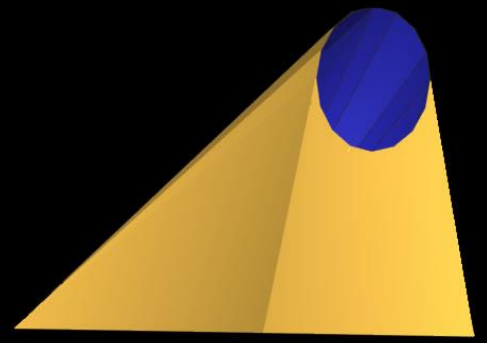



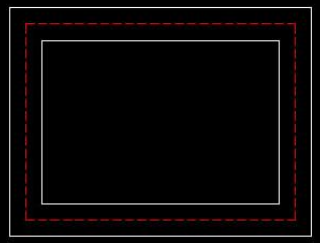


# 007 - Transição Ret/Red 90° Alinhada

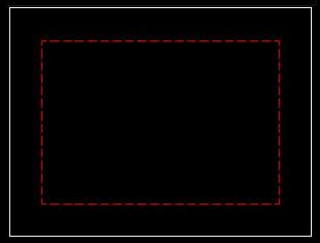
| | |
|---|---|
| Lx | 1000 |
| Ly | 800 |
| D | 600 |
| H | 700 |
| N div | 16 ... |
| Qtd | 1 |
| Método | N |
| Calcular 3D | Sim |
| e | 12,7 (Aço) ... |



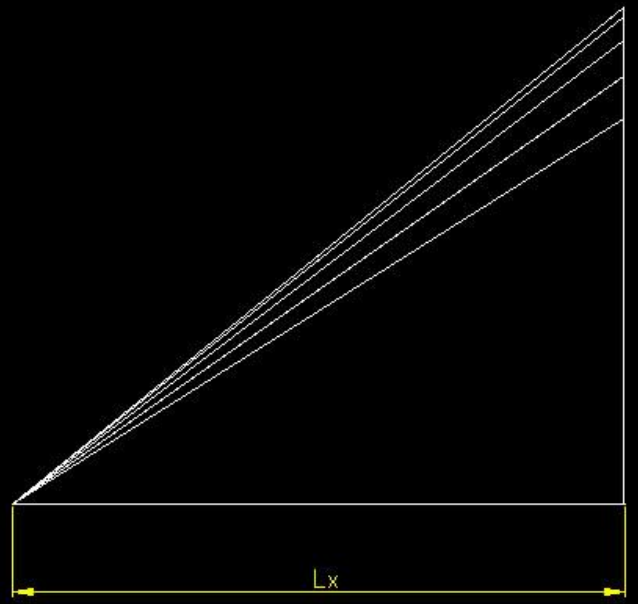



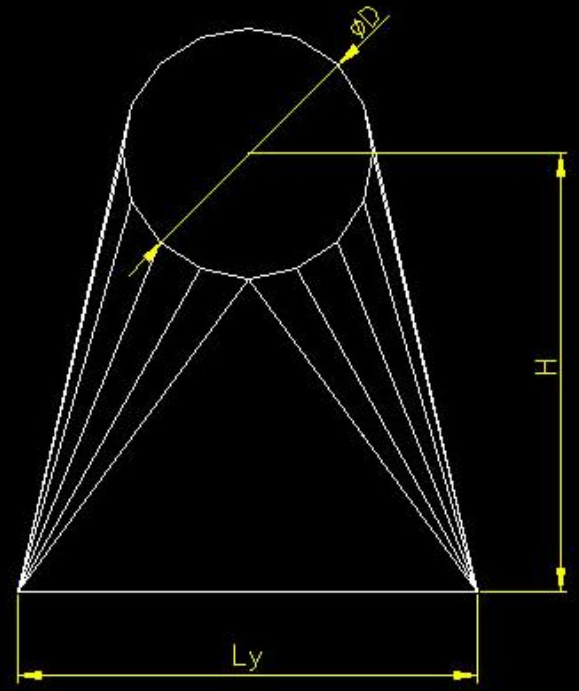


N



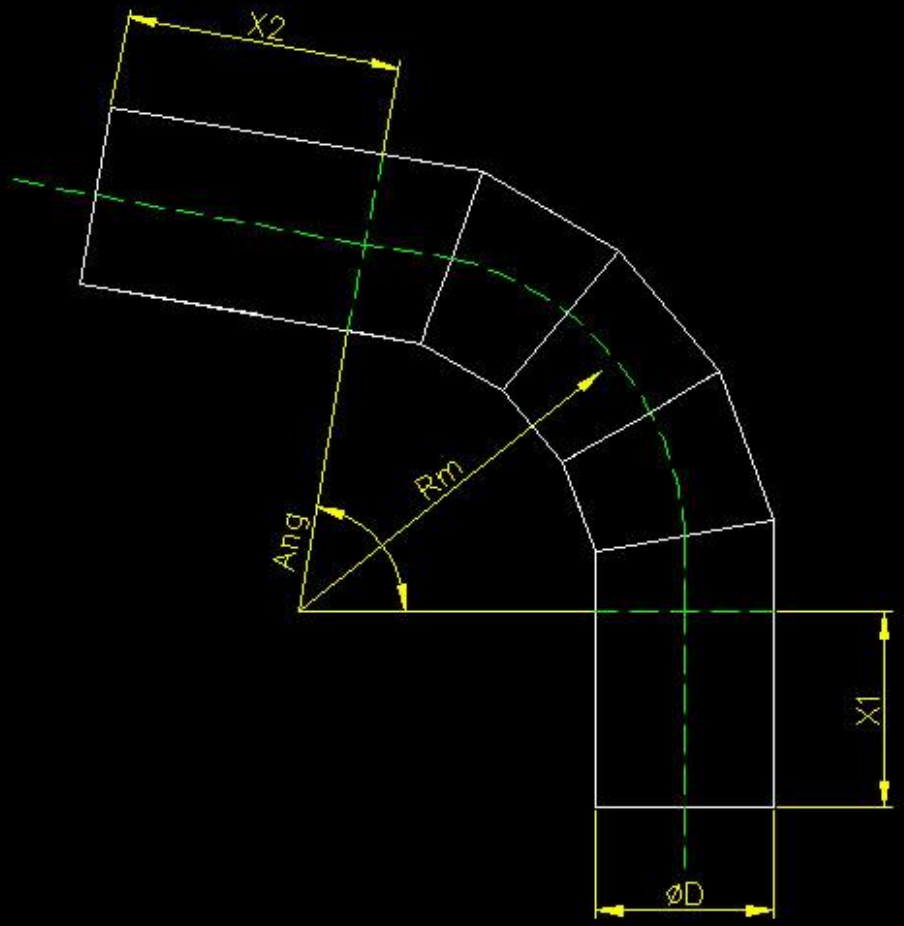
R

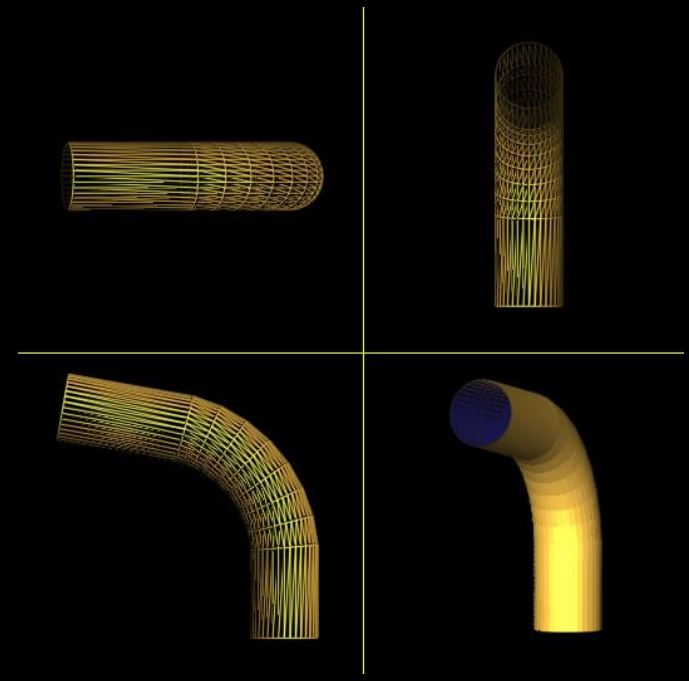


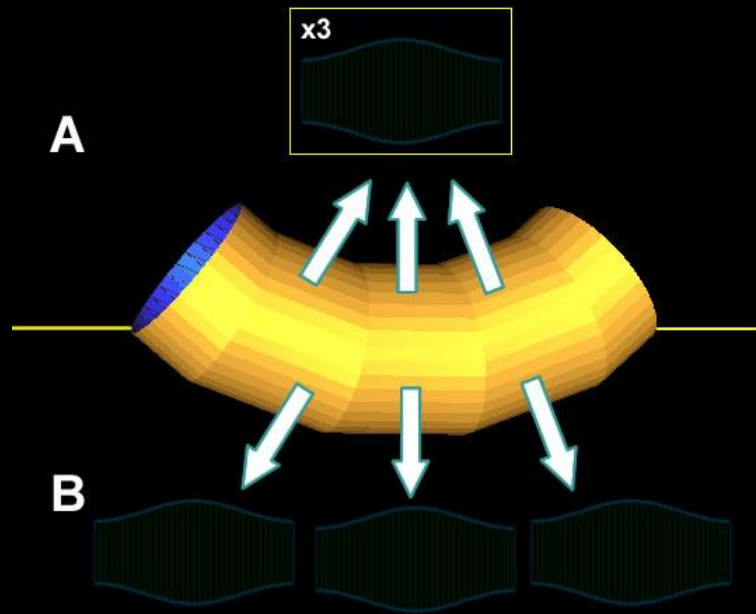



# 010 - Curva de Gomos Genérica

| | |
|---|---|
| D | 200 |
| Ang | 60 |
| Rm | 200 |
| Ng | 4 |
| N div | 16 ... |
| X1 | 180 |
| X2 | 180 |
| Qtd | 1 |
| Tipo | A |
| Emenda | D |
| Calcular 3D | Sim |
| e | 1 (Aço) ... |

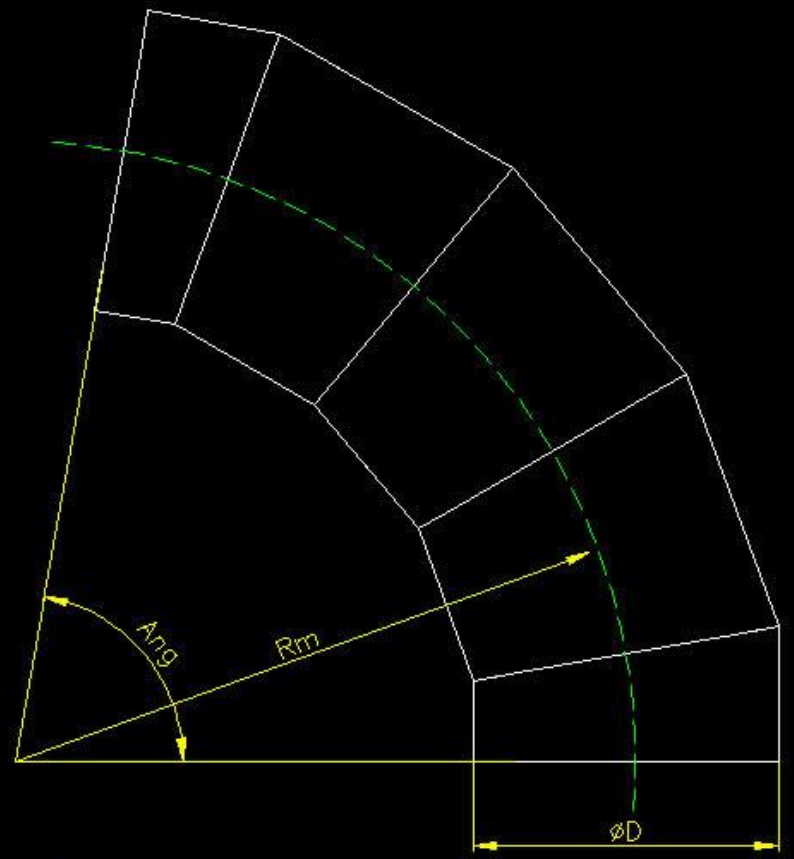


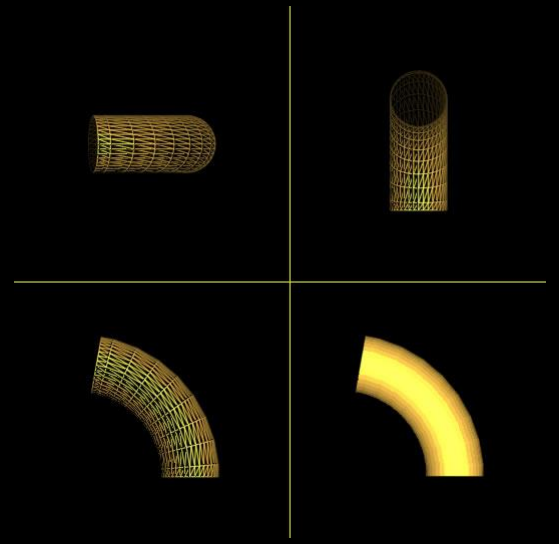



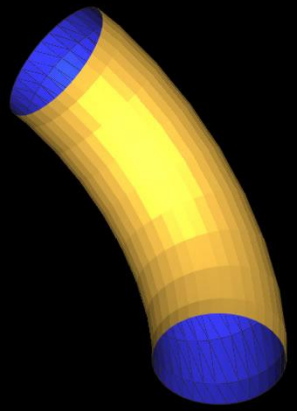


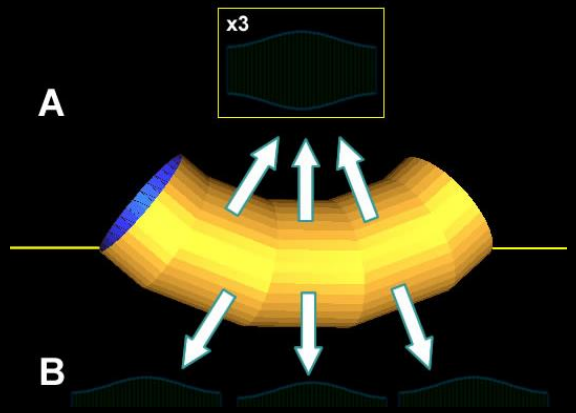
# 011 - Curva de Gomos ☆

| | |
|---|---|
| D | 600 |
| Ang | 80 |
| Rm | 1200 |
| Ng | 4 |
| N div | 16 ... |
| Qtd | 1 |
| Tipo | A |
| Emenda | D |
| Calcular 3D | Sim |
| e | 10 (Aço) ... |



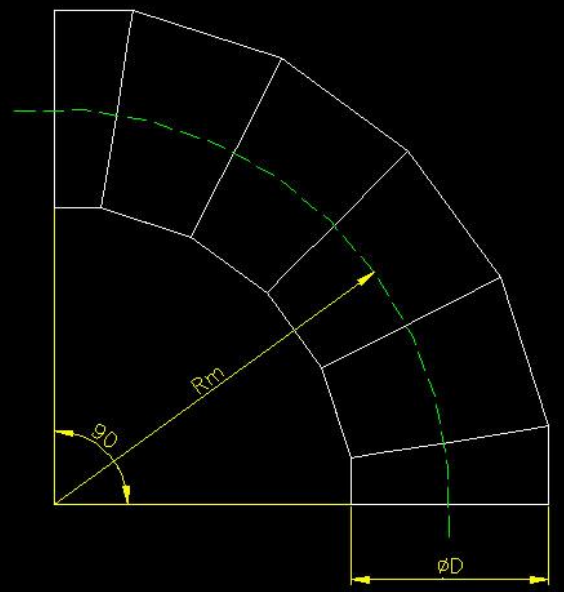



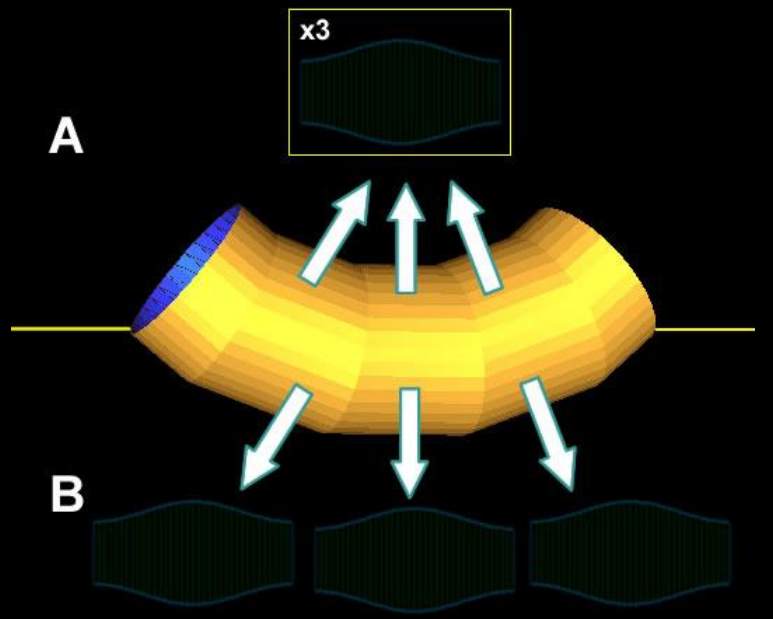


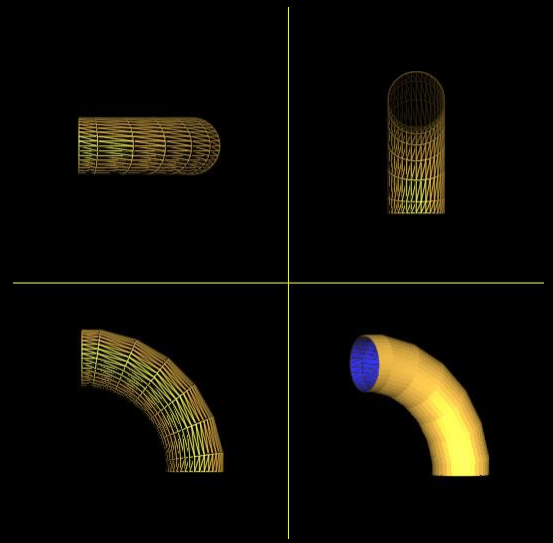


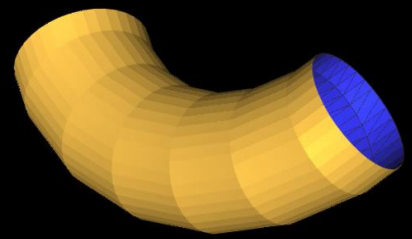
# 012 - Curva de Gomos 90° ☆

| | |
|---|---|
| D | 600 |
| Rm | 1200 |
| Ng | 5 |
| N div | 16 ... |
| Qtd | 1 |
| Tipo | A |
| Emenda | D |
| Calcular 3D | Sim |
| e | 10 (Aço) ... |



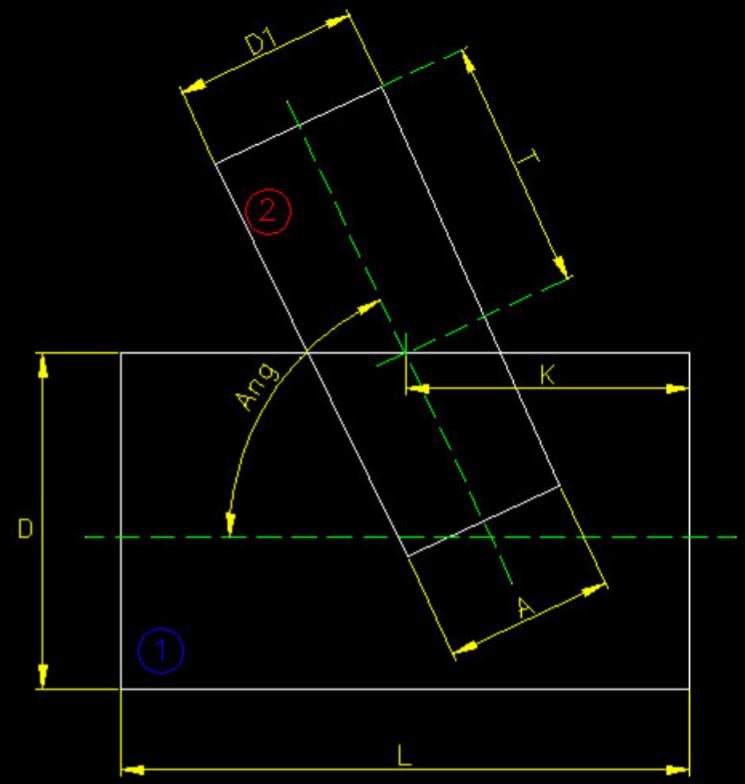



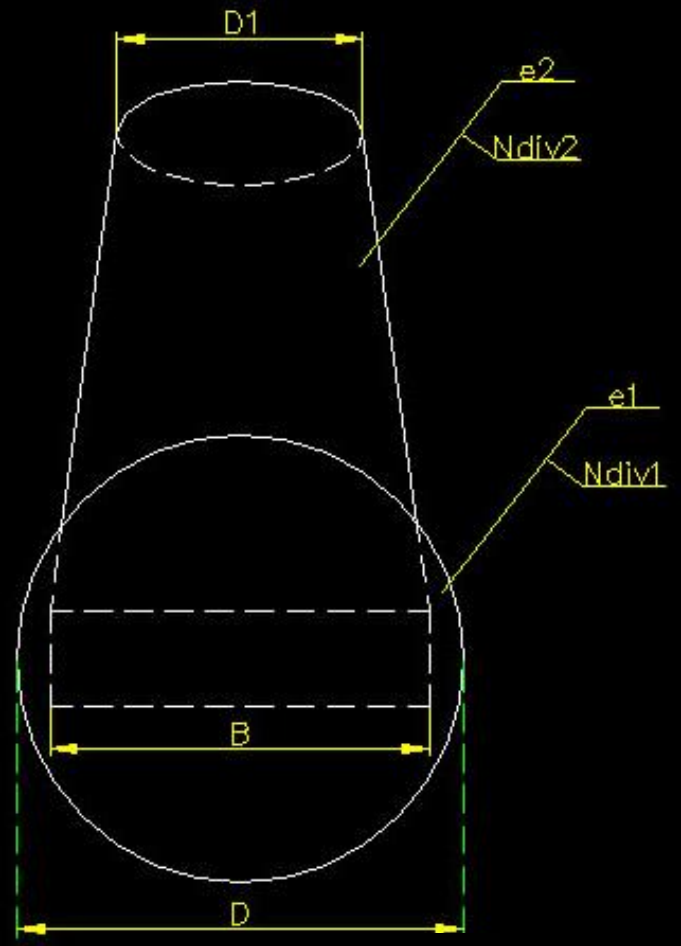



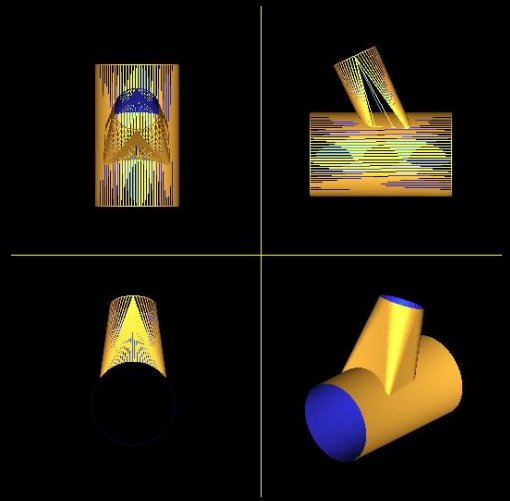


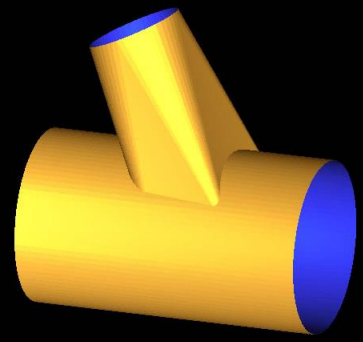
# 015 - Int. de Transição Ret/Red em Cilindro ☆

| | |
|---|---|
| D | 1000 |
| D1 | 550 |
| L | 1700 |
| K | 850 |
| T | 750 |
| A | 500 |
| B | 850 |
| Ang | 65 |
| Ndiv1 | 32 ... |
| Ndiv2 | 16 ... |
| Qtd | 1 |
| Calcular | 1+2 ▼ |
| Calcular 3D | Sim ▼ |
| Método | M+M ... |
| e1 | 10 (Aço) ... |
| e2 | 10 (Aço) ... |



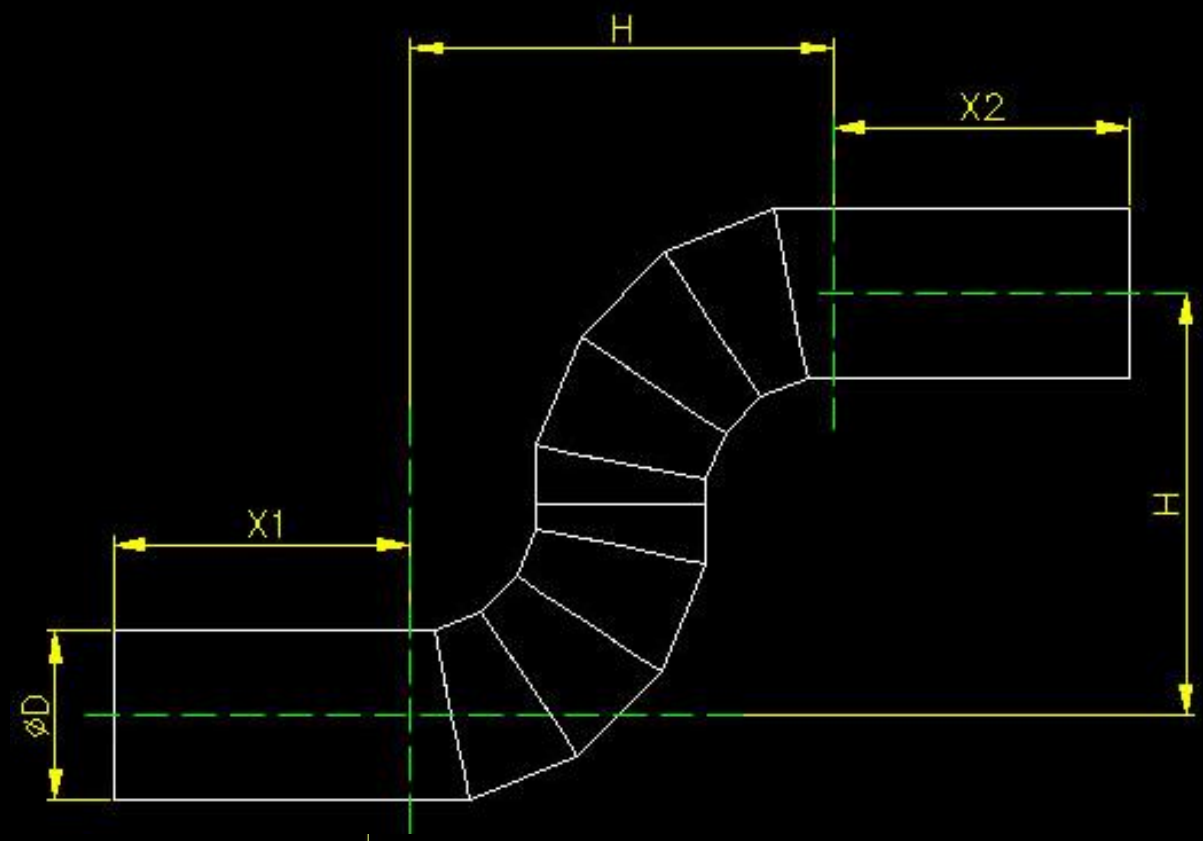



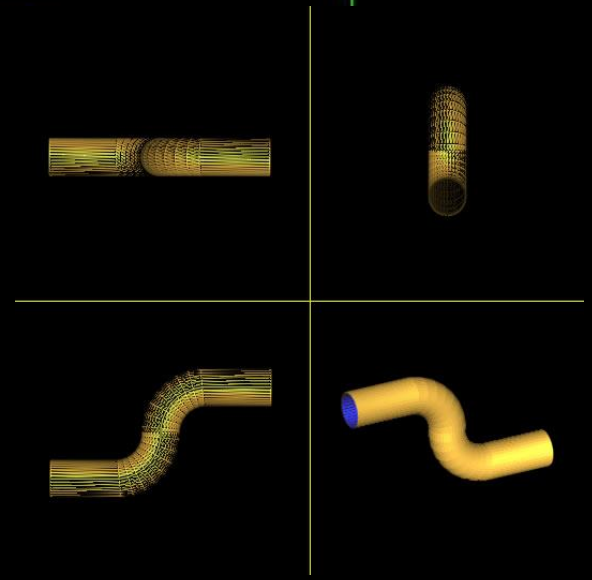



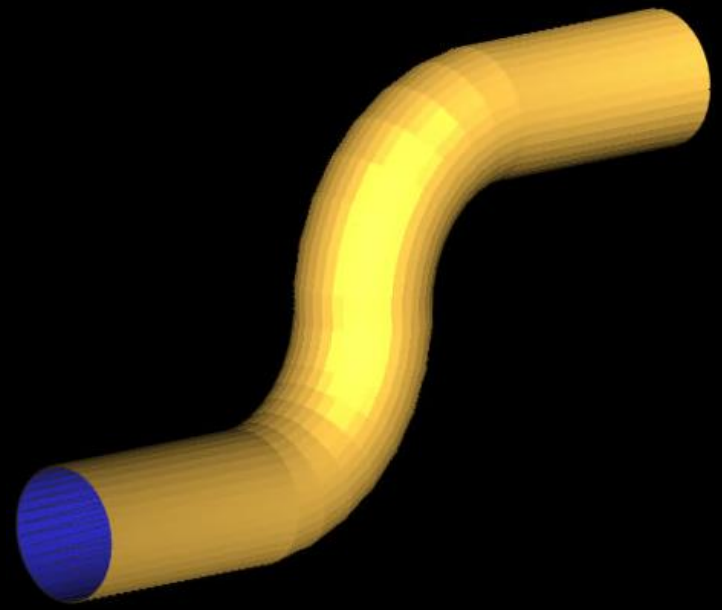


# 016 - Desvio Paralelo ☆

| | |
|---|---|
| D | 400 |
| H | 1000 |
| Ng | 4 |
| N div | 16 ... |
| X1 | 1000 |
| X2 | 1000 |
| Qtd | 1 |
| Tipo | A ▼ |
| Emenda | D ▼ |
| Calcular 3D | Sim ▼ |
| e | 10 (Aço) ... |

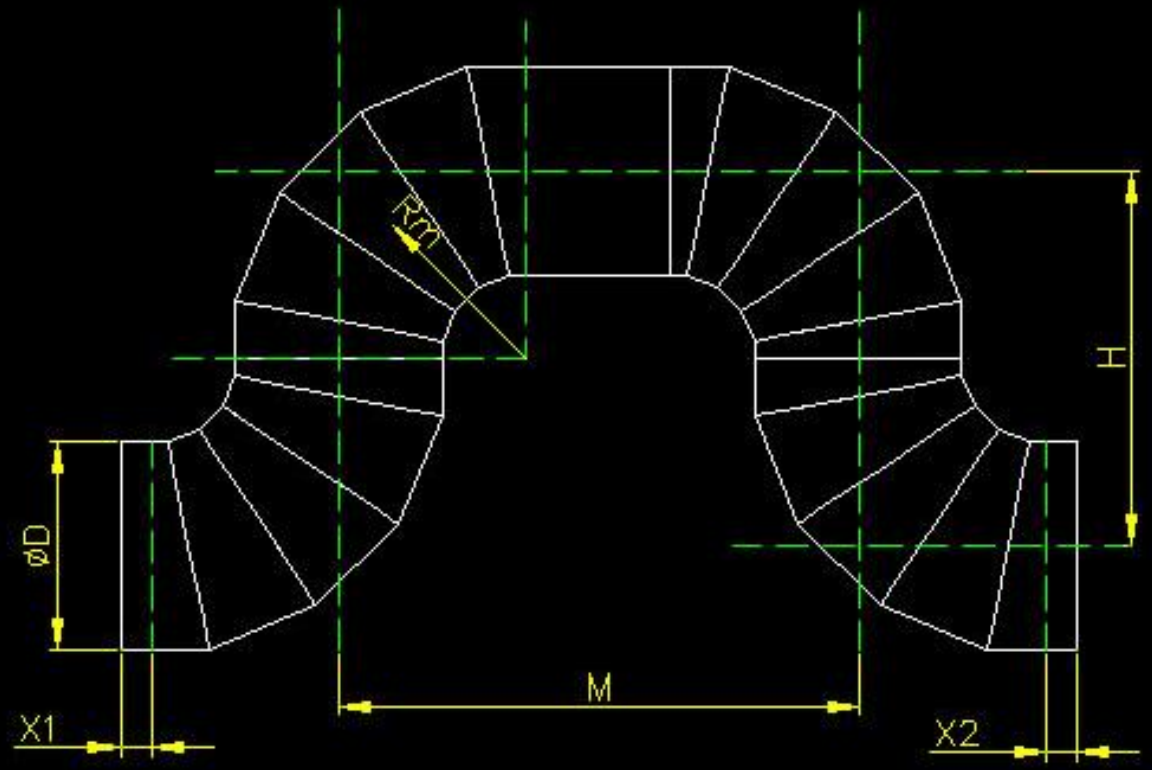


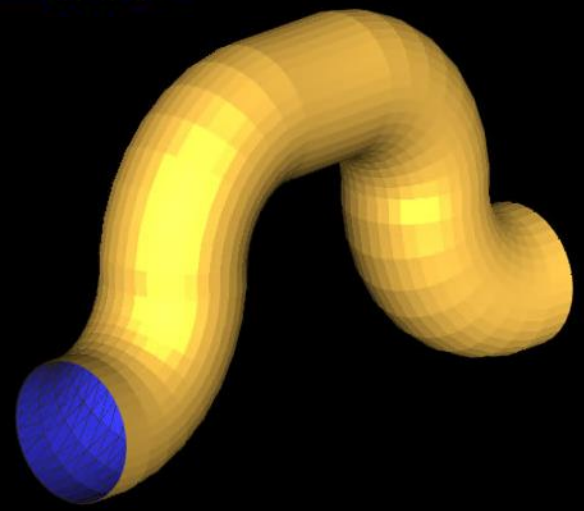





# 017 - Desvio Alinhado ☆

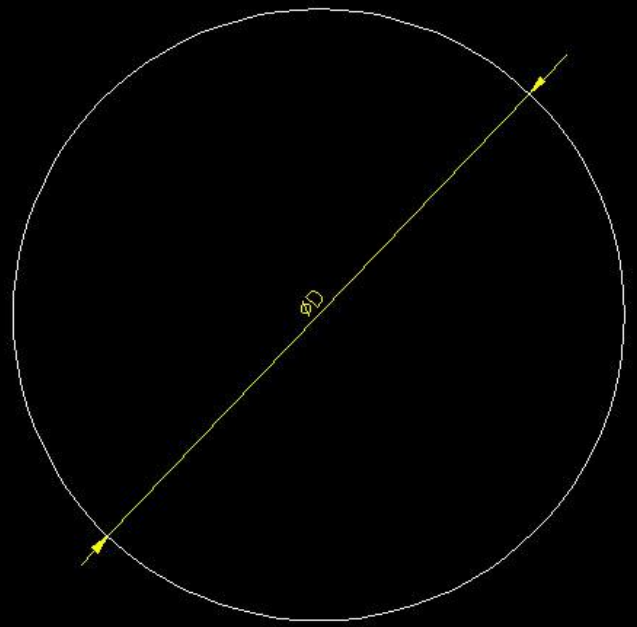
| | |
|---|---|
| D | 1000 |
| Rm | 900 |
| M | 2500 |
| H | 2000 |
| Ng | 4 |
| N div | 32 ... |
| X1 | 700 |
| X2 | 800 |
| Qtd | 1 |
| Tipo | A ▼ |
| Emenda | D ▼ |
| Calcular 3D | Sim ▼ |
| e | 10 (Aço) ... |

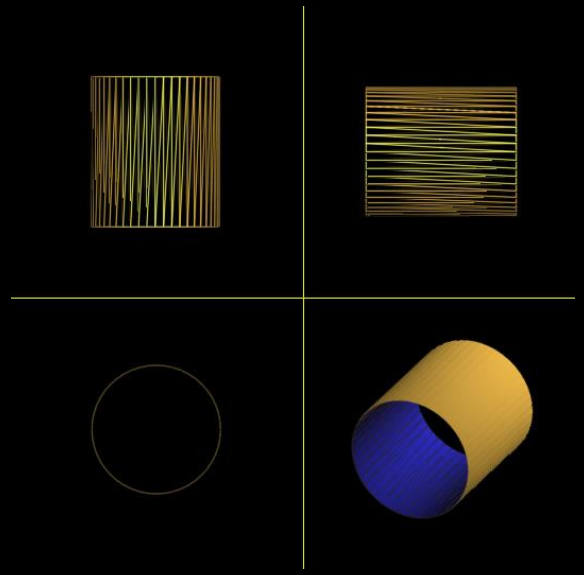


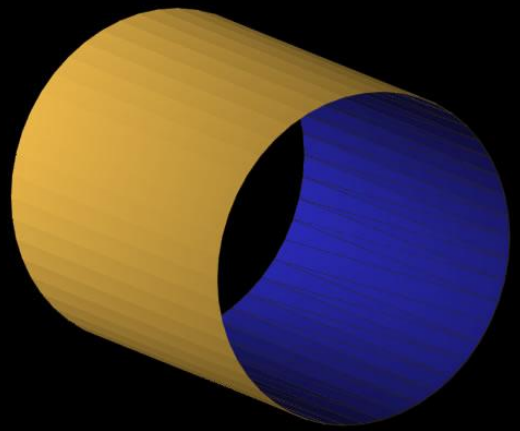



# 018 - Cilindro ☆

| | |
|---|---|
| **D** | 600 |
| **H** | 700 |
| **Qtd** | 1 |
| **Calcular 3D** | Sim |
| **e** | 12,7 (Aço) ... |

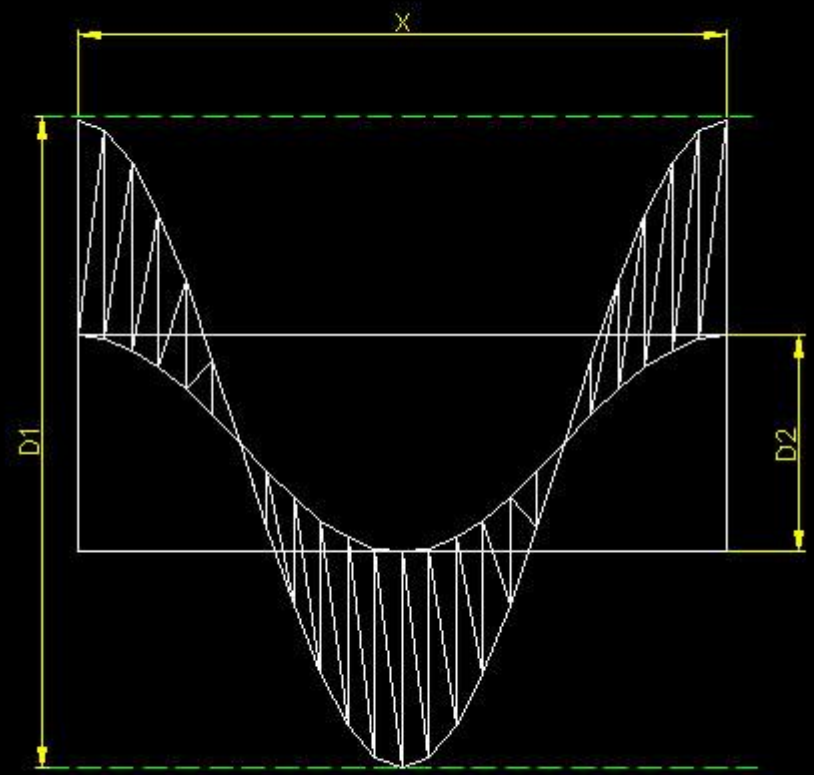


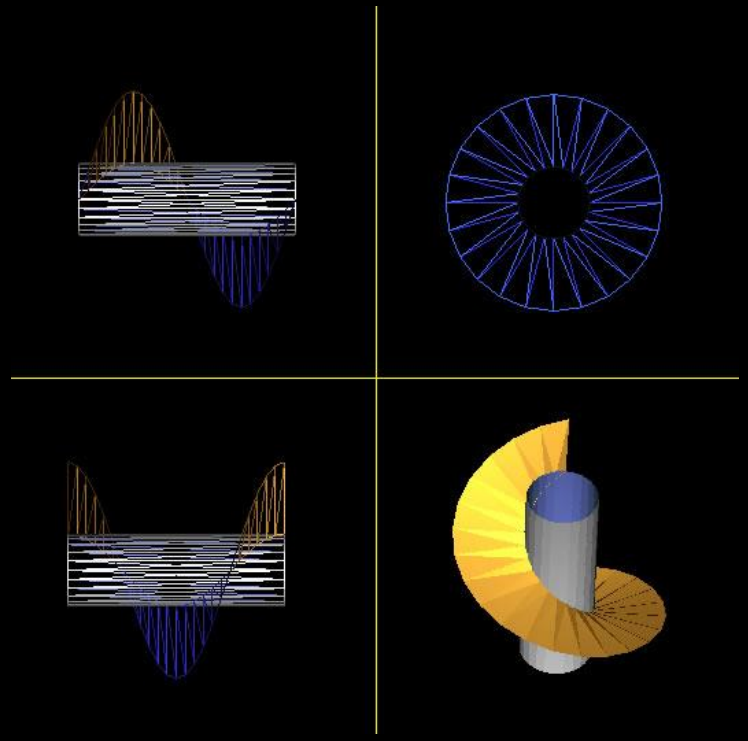



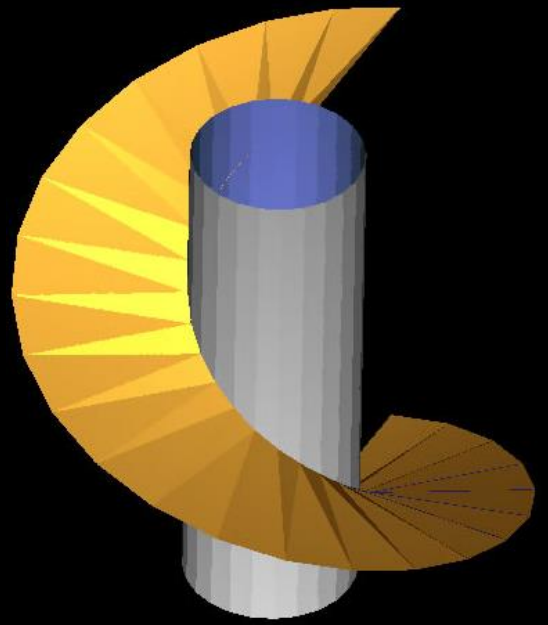


# 019 - Helicóide ☆

| | |
|---|---|
| **D1** | 1000 |
| **D2** | 650 |
| **X** | 600 |
| **Qtd** | 1 |
| **Calcular 3D** | Sim |
| **e** | 10 (Aço) ... |

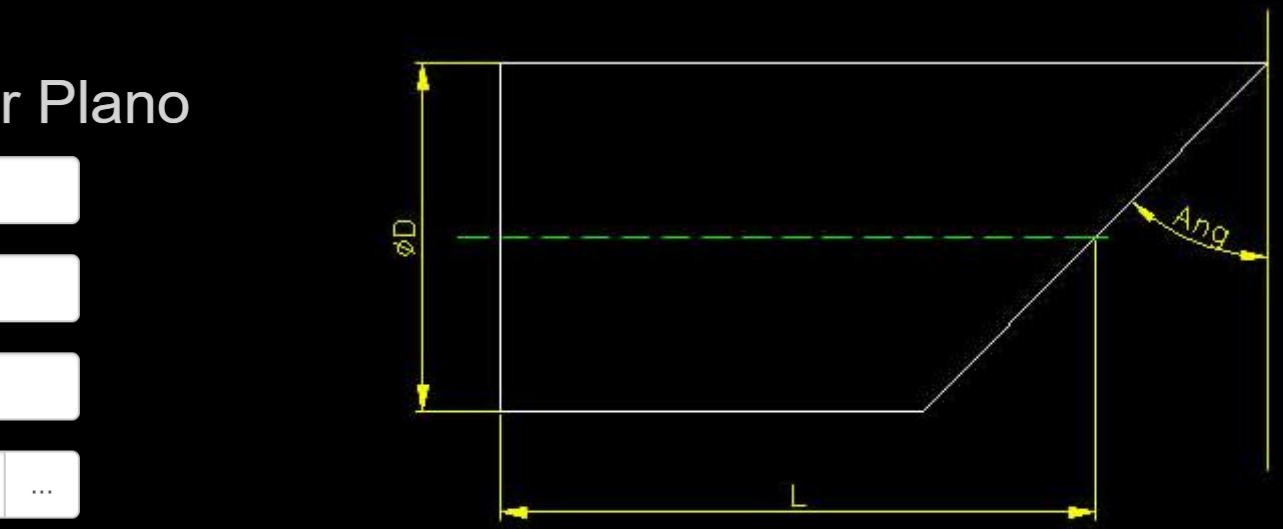


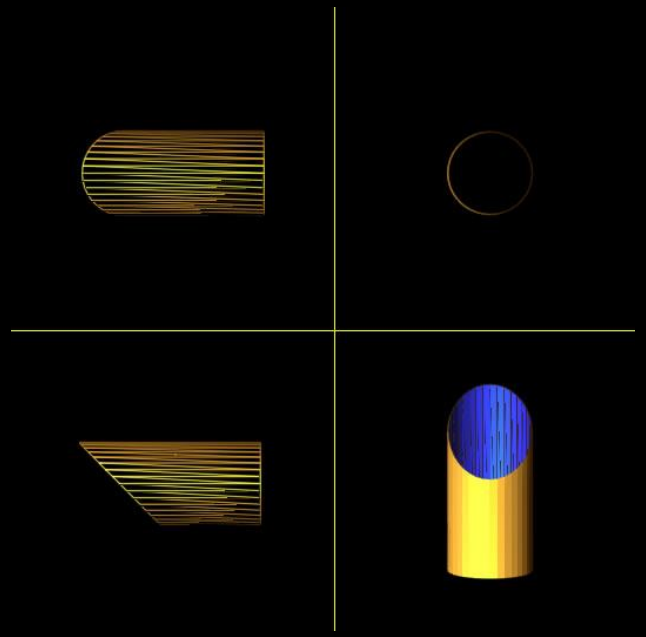



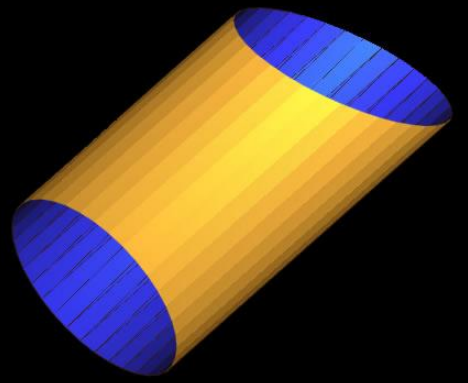


# 021 - Cilindro Cortado por Plano

| | |
|---|---|
| **D** | 600 |
| **Ang** | 30 |
| **L** | 1000 |
| **Ndiv** | 16 ... |
| **Qtd** | 1 |
| **Calcular 3D** | Sim |
| **e** | 12,7 (Aço) ... |

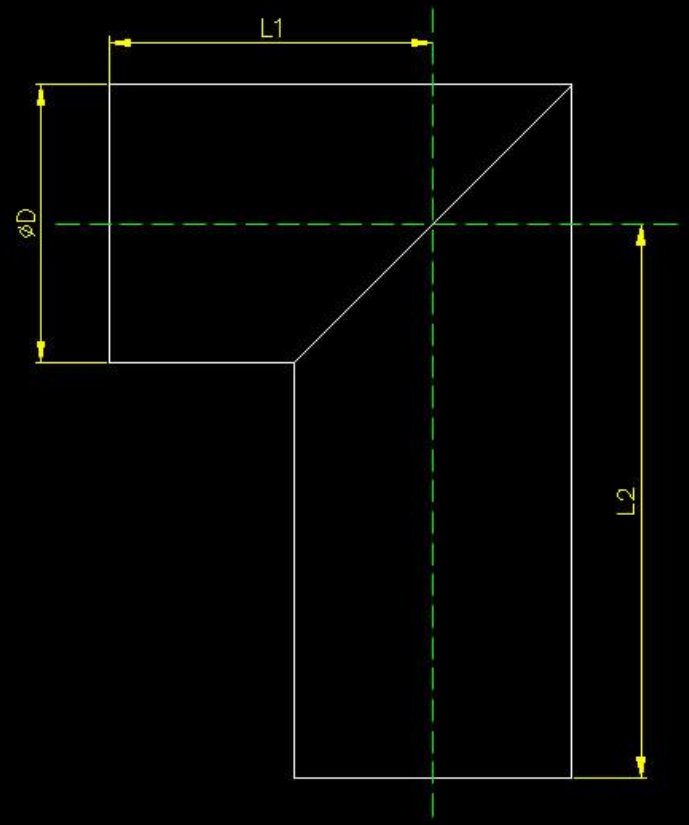


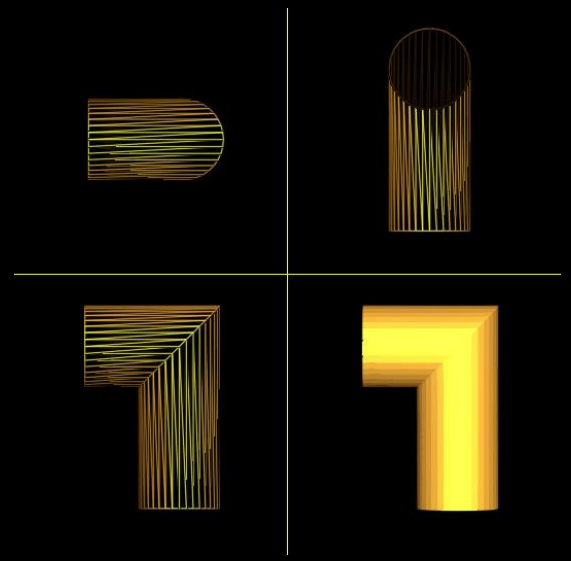



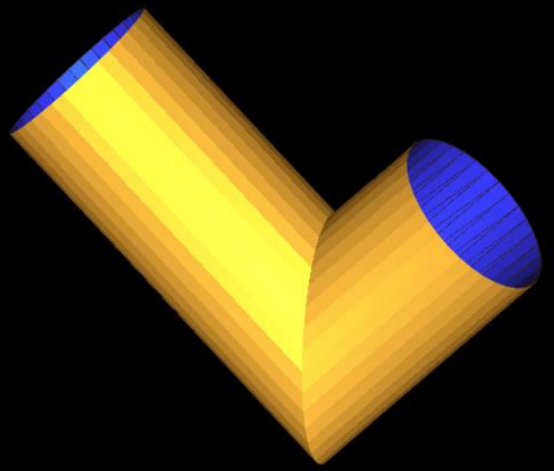


# 023 - Curva Direta 90° ★

| | |
|---|---|
| **D** | 600 |
| **L1** | 500 |
| **L2** | 800 |
| **Ndiv** | 16 ... |
| **Qtd** | 1 |
| **Calcular 3D** | Sim |
| **e** | 12,7 (Aço) ... |

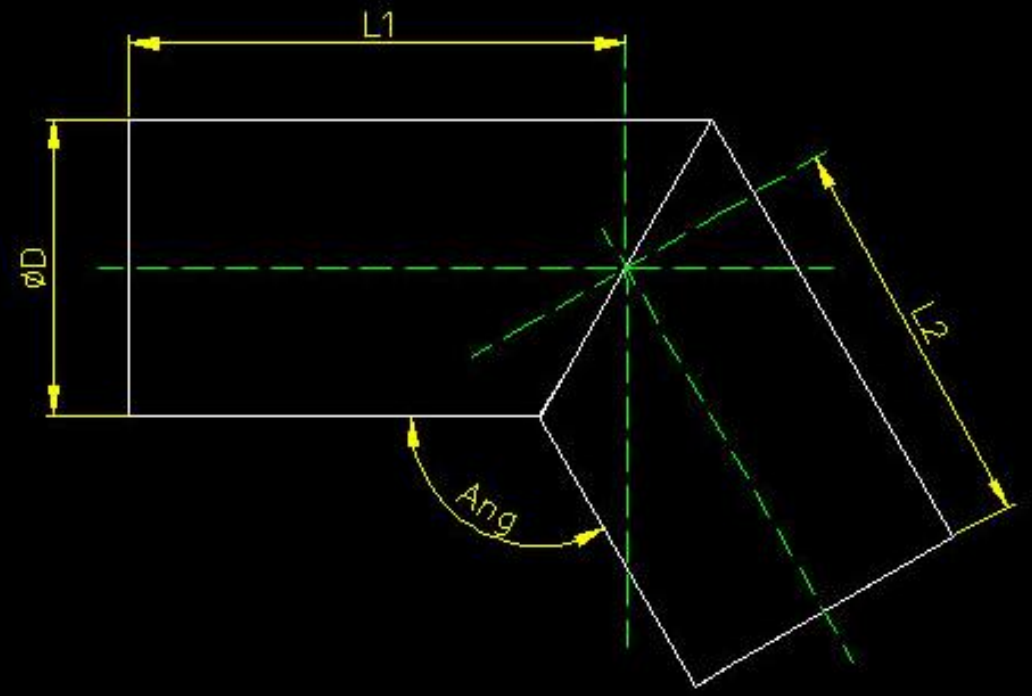


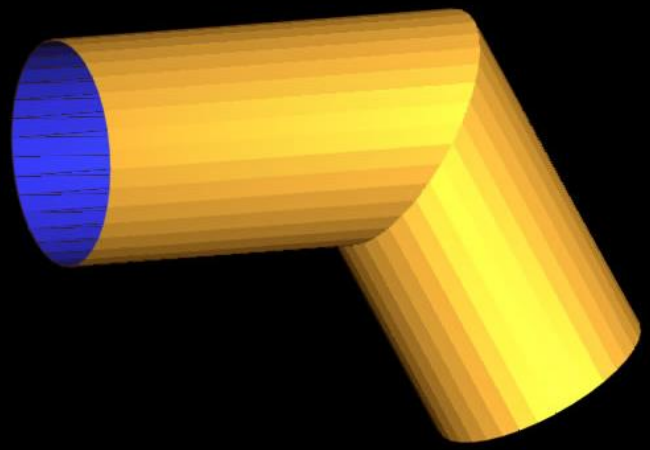



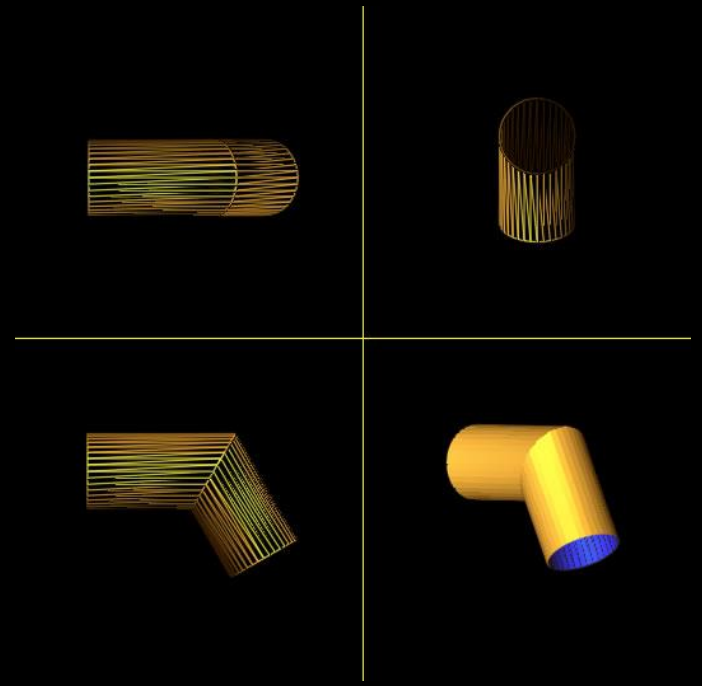


# 024 - Curva Direta ☆

| | |
|---|---|
| **D** | 500 |
| **L1** | 850 |
| **L2** | 500 |
| **Ang** | 120 |
| **Ndiv** | 16 ... |
| **Qtd** | 1 |
| **Calcular 3D** | Sim ▼ |
| **e** | 12,7 (Aço) ... |

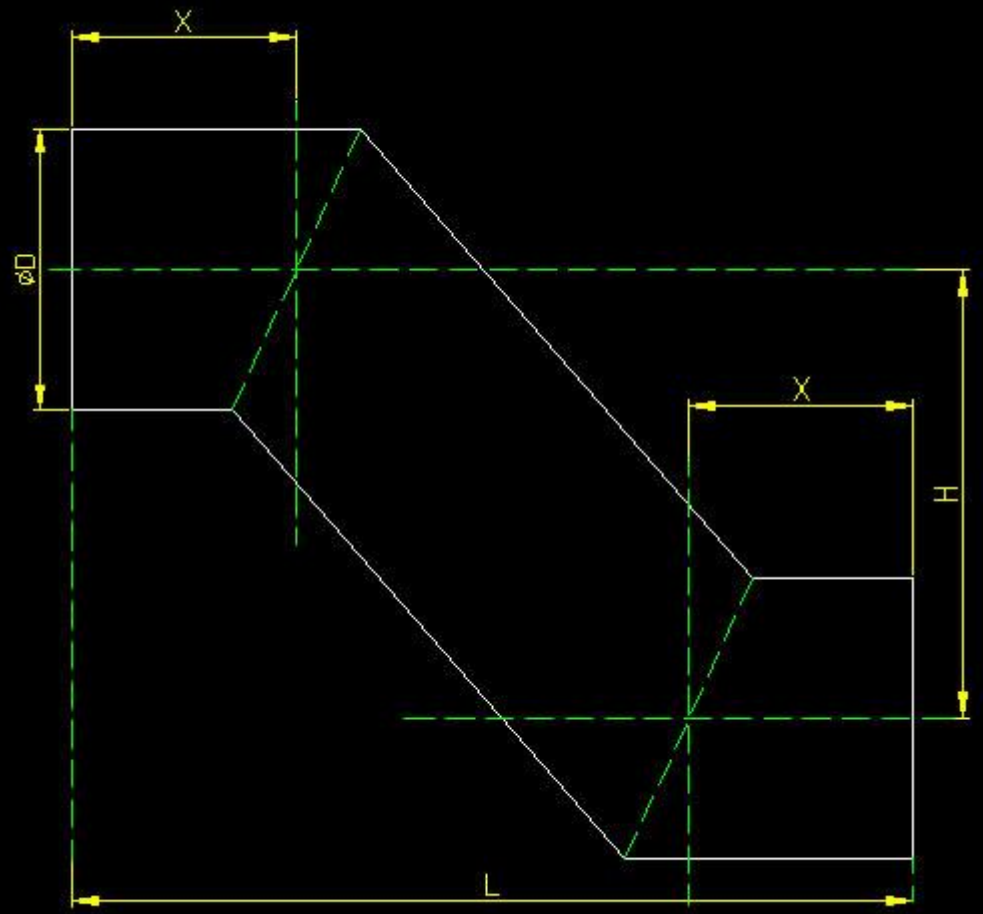


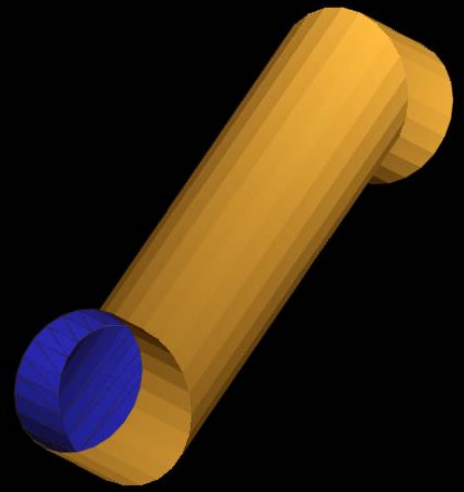



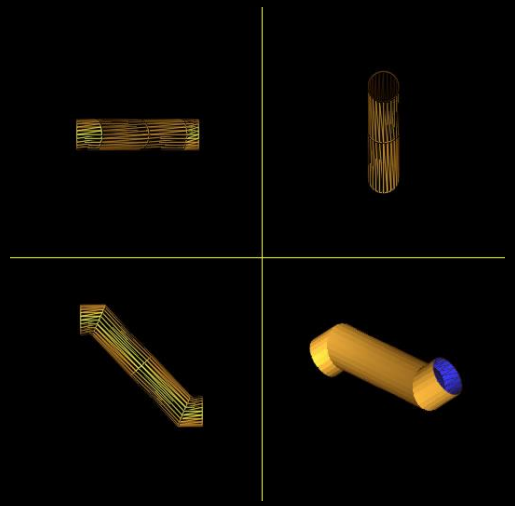


# 025 - Desvio Circular Paralelo

| | |
|---|---|
| **D** | 500 |
| **L** | 2000 |
| **H** | 1500 |
| **X** | 300 |
| **Ndiv** | 16 ... |
| **Qtd** | 1 |
| **Calcular 3D** | Sim ▼ |
| **e** | 12,7 (Aço) ... |



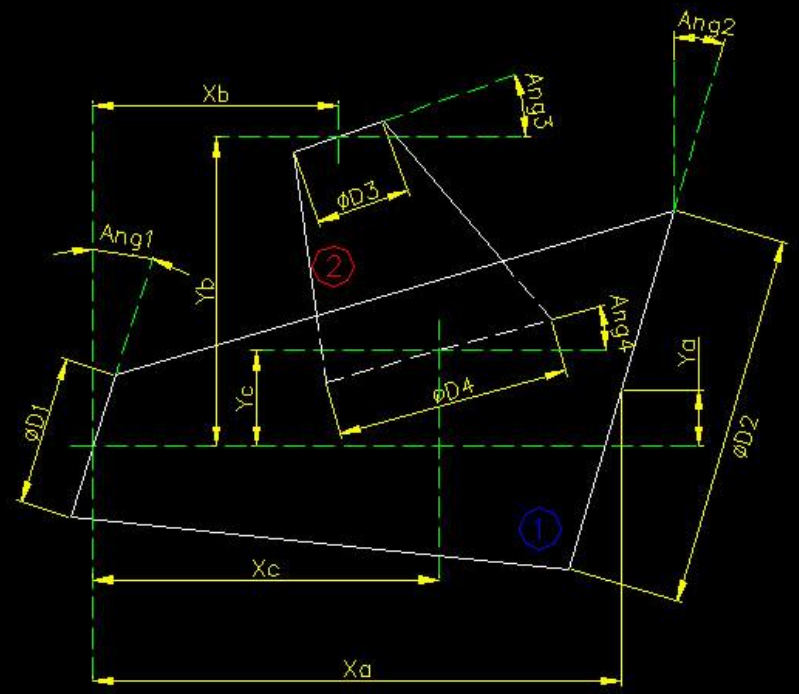



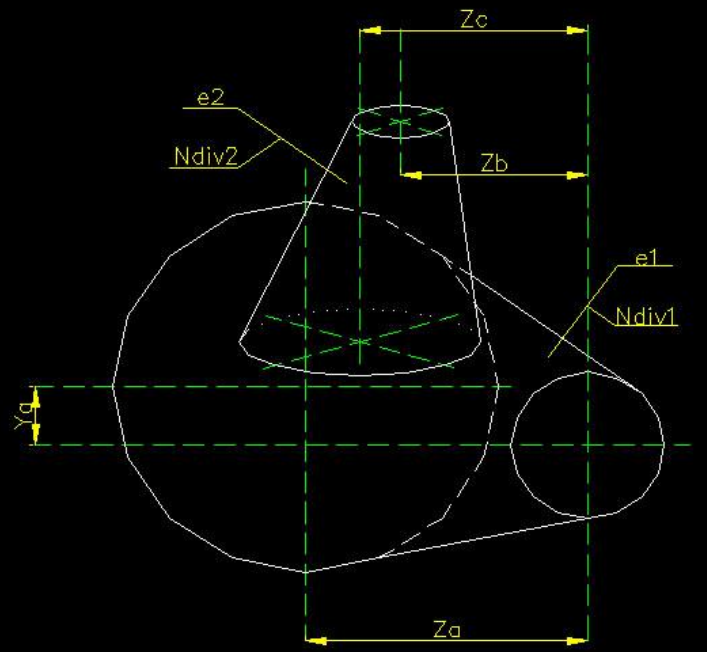


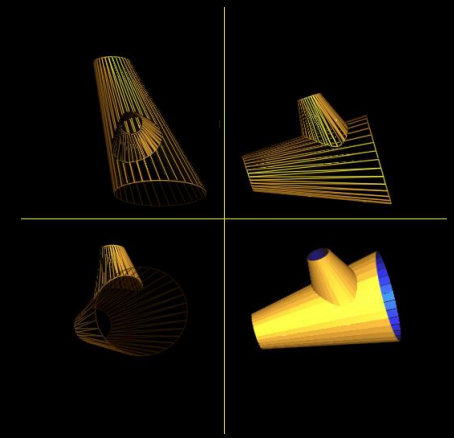
# 026 - Intersecção Cone/Cone Genérica

| | |
|---|---|
| D1 | 800 |
| D2 | 1500 |
| D3 | 700 |
| D4 | 1000 |
| Xa | 2400 |
| Xb | 1100 |
| Xc | 1100 |
| Ya | 100 |
| Yb | 1100 |
| Yc | 0 |
| Za | 0 |
| Zb | 0 |
| Zc | 0 |
| Ang1 | 30 |
| Ang2 | -30 |
| Ang3 | 45 |

| | |
|---|---|
| Ang4 | 0 |
| Ndiv1 | 32 |
| Ndiv2 | 32 |
| Qtd | 1 |
| Calcular | 1+2 |
| Calcular 3D | Sim |
| Método | M+M |
| e1 | 5 (Aço) |
| e2 | 5 (Aço) |
| PLN(%) | 50 |



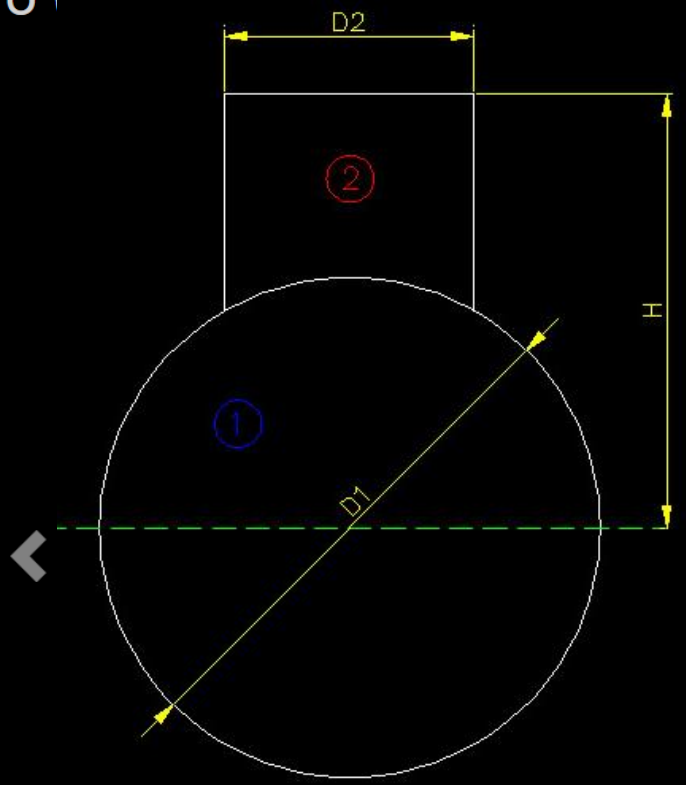



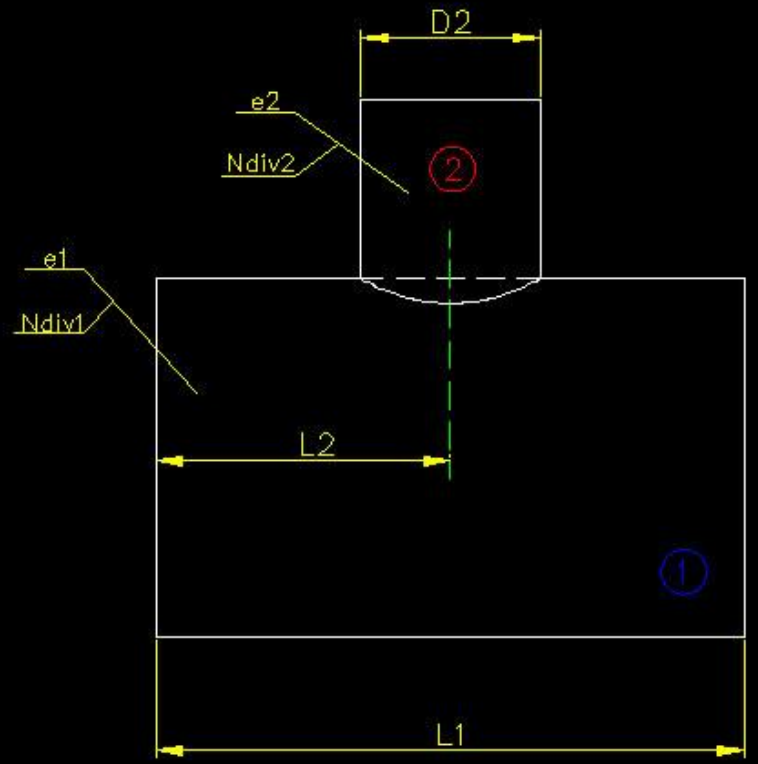



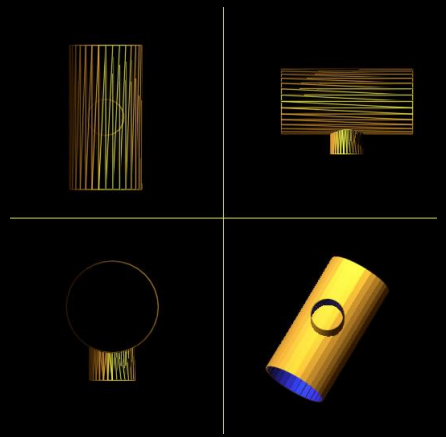
# 027 - Intersecção Cilindro / Cilindro

**Variantes de cotação:** Anterior | Próxima

| | |
|---|---|
| **D1** | 1000 |
| **D2** | 500 |
| **H** | 800 |
| **L1** | 2000 |
| **L2** | 1000 |
| **Ndiv1** | 32 ... |
| **Ndiv2** | 16 ... |
| **Qtd** | 1 |
| **Calcular** | 1+2 ▼ |
| **Calcular 3D** | Sim ▼ |
| **Método** | M+M ... |
| **e1** | 10 (Aço) ... |
| **e2** | 8 (Aço) ... |



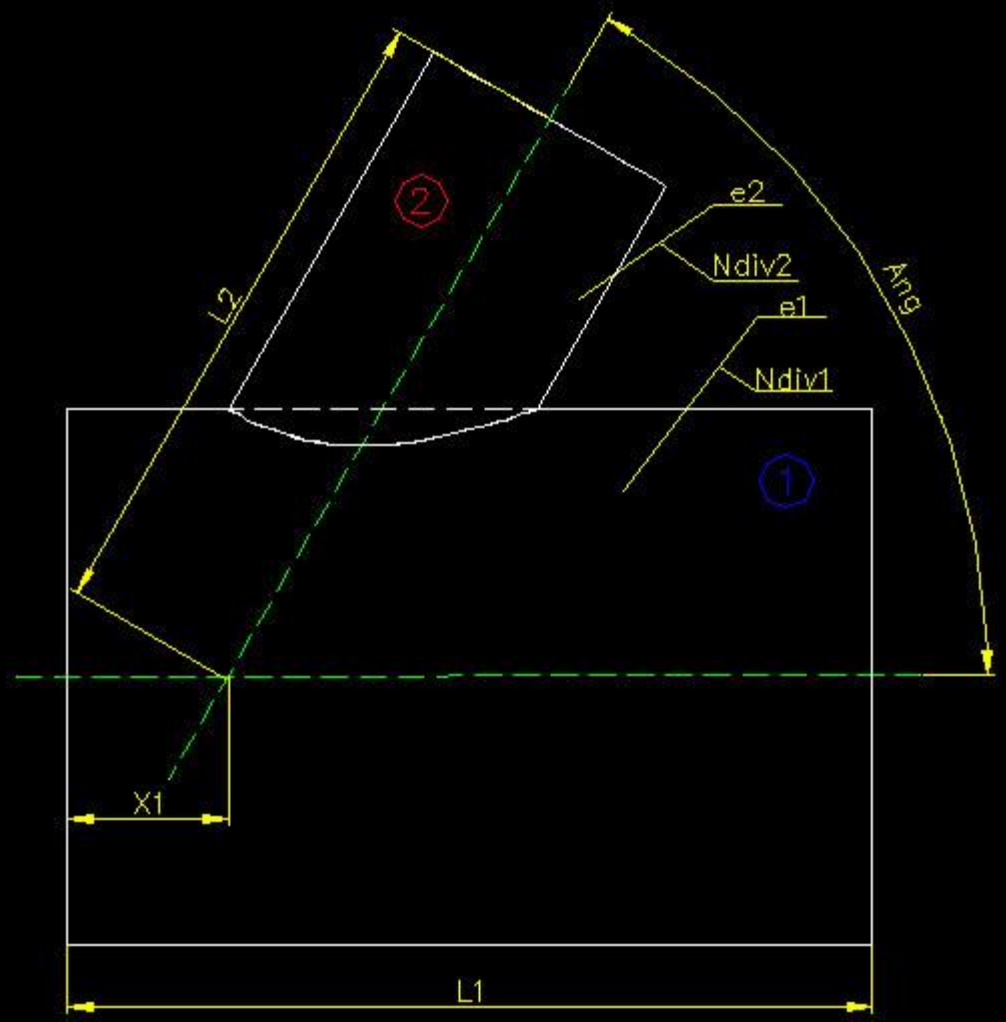



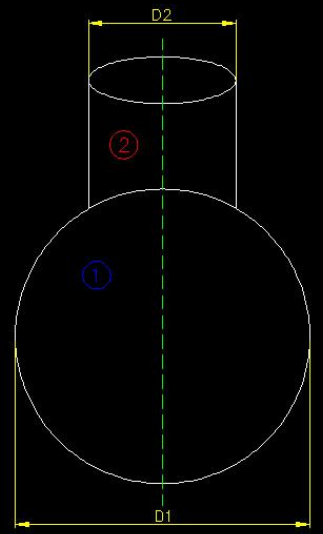



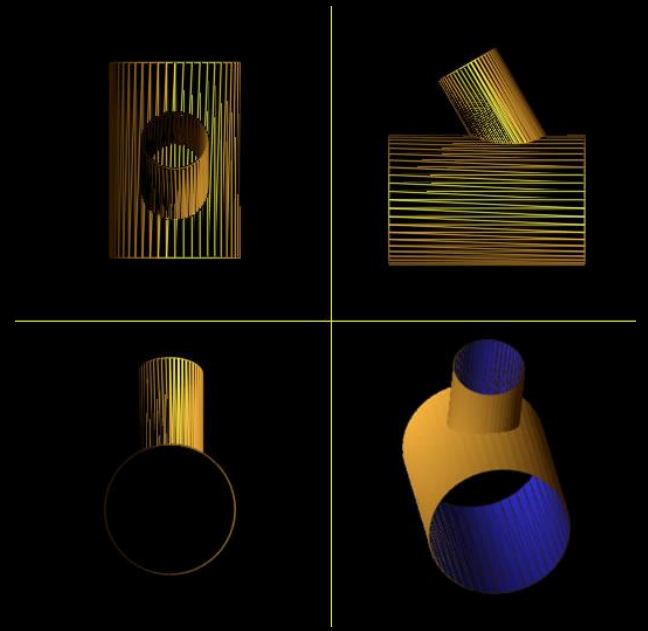
# 031 - Intersecção Tubos prontos inclinada

**Variantes de cotação:** Anterior | Próxima

| | |
|---|---|
| **D1** | 1000 |
| **D2** | 500 |
| **L1** | 1200 |
| **L2** | 1200 |
| **X1** | 300 |
| **Ang** | 60 |
| **Ndiv1** | 32 ... |
| **Ndiv2** | 16 ... |
| **Qtd** | 1 |
| **Calcular** | 1+2 ▼ |
| **Calcular 3D** | Sim ▼ |
| **Método** | M+M ... |
| **e1** | 10 (Aço) ... |
| **e2** | 8 (Aço) ... |

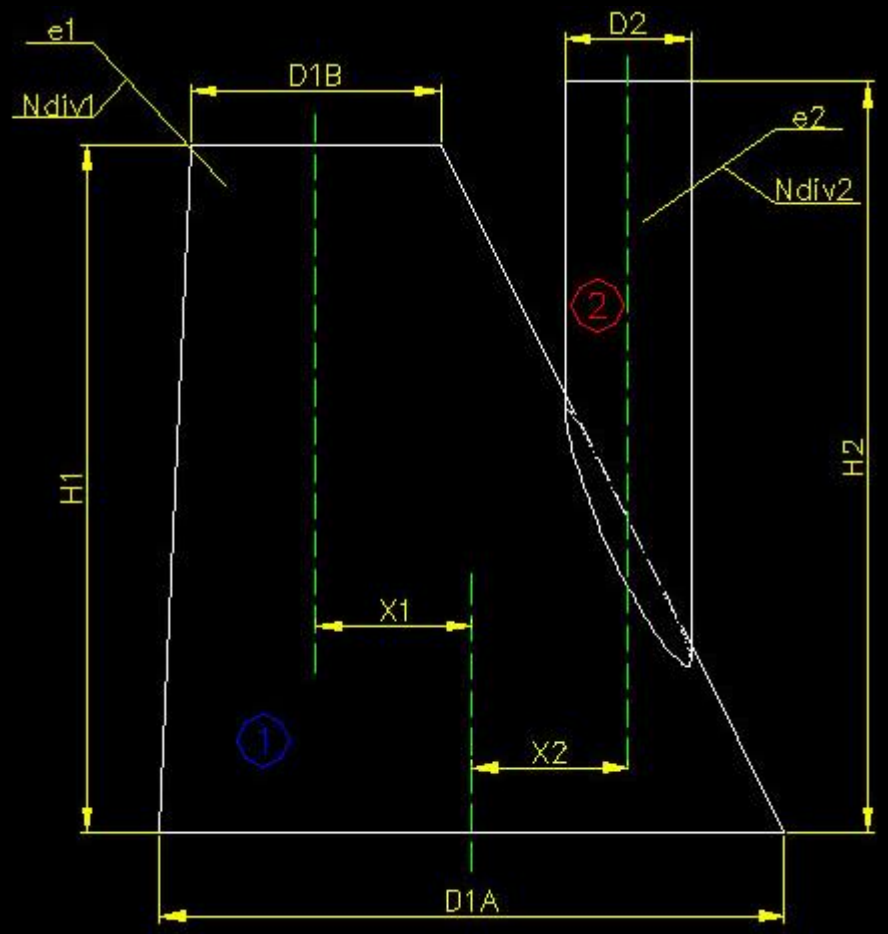


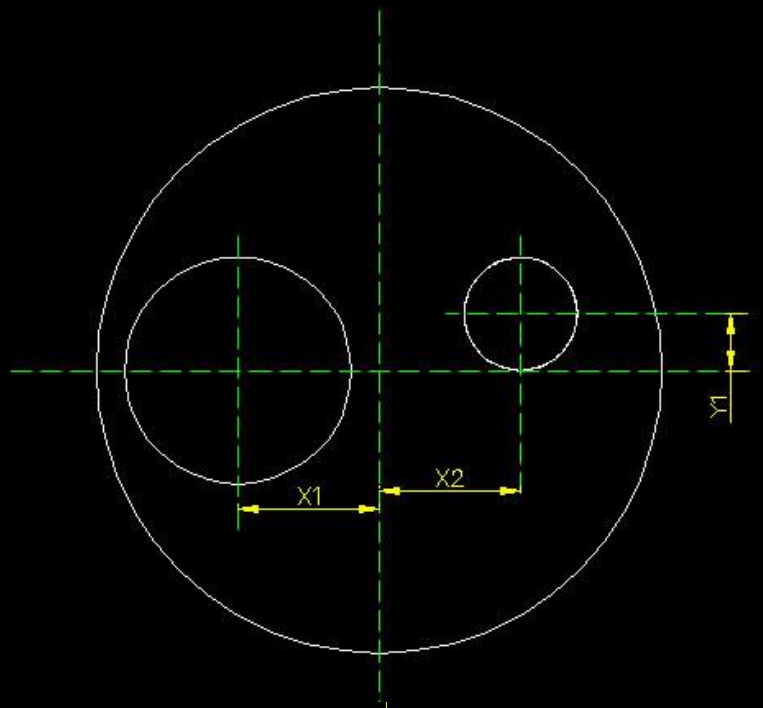



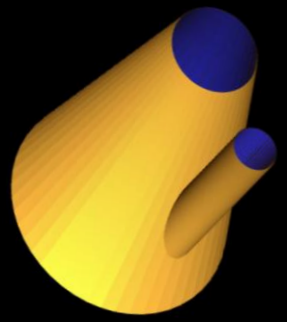



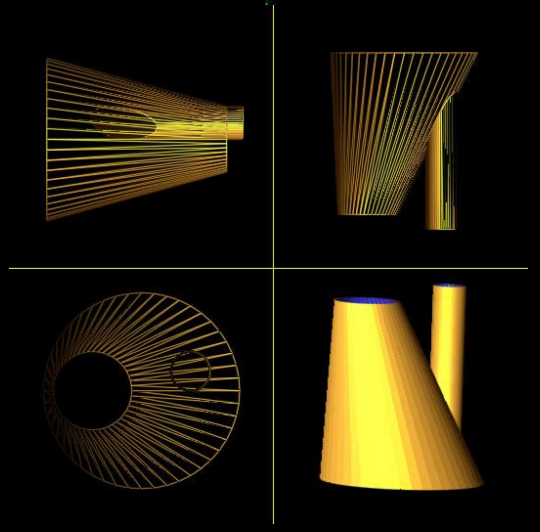
# 032 - Intersecção Cilindro/Cone 90°

| | |
|---|---|
| D1A | 1000 |
| D1B | 400 |
| D2 | 250 |
| H1 | 1100 |
| H2 | 1200 |
| X1 | 280 |
| X2 | 280 |
| Y1 | 30 |
| Ndiv1 | 32 ... |
| Ndiv2 | 16 ... |
| Qtd | 1 |
| Calcular | 1+2 |
| Calcular 3D | Sim |
| Método | M+M ... |
| e1 | 10 (Aço) ... |
| e2 | 10 (Aço) ... |



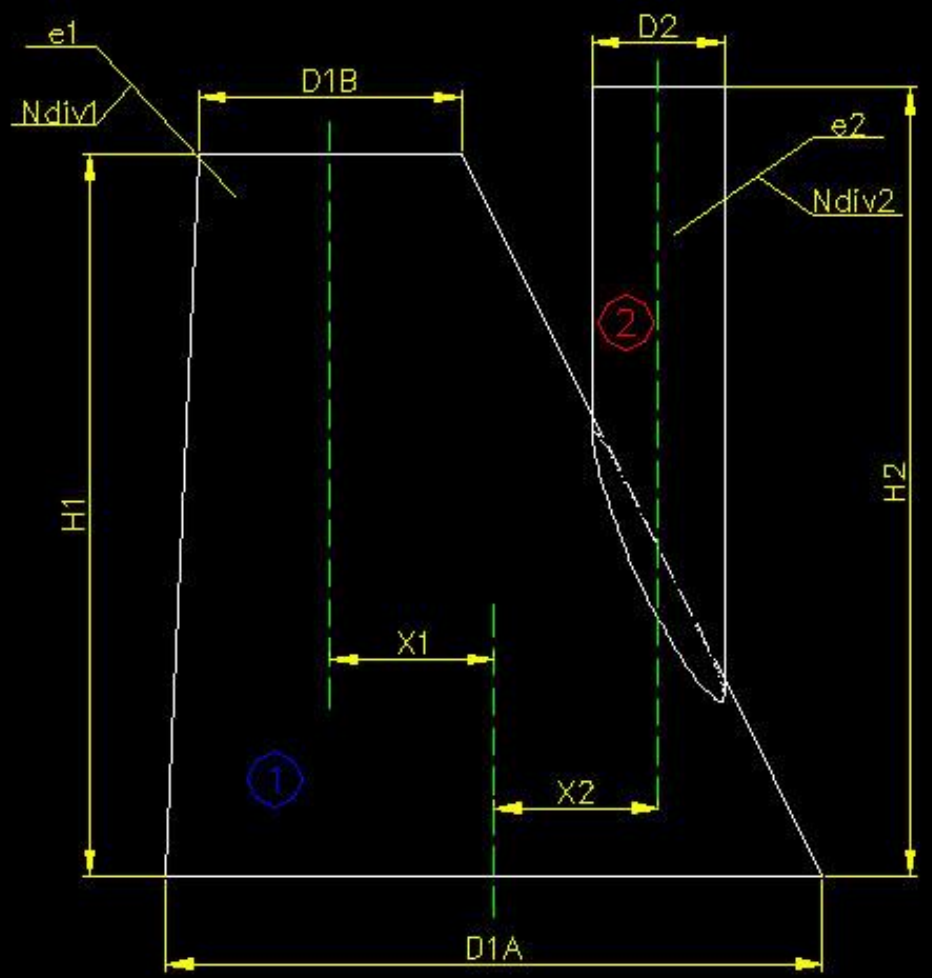



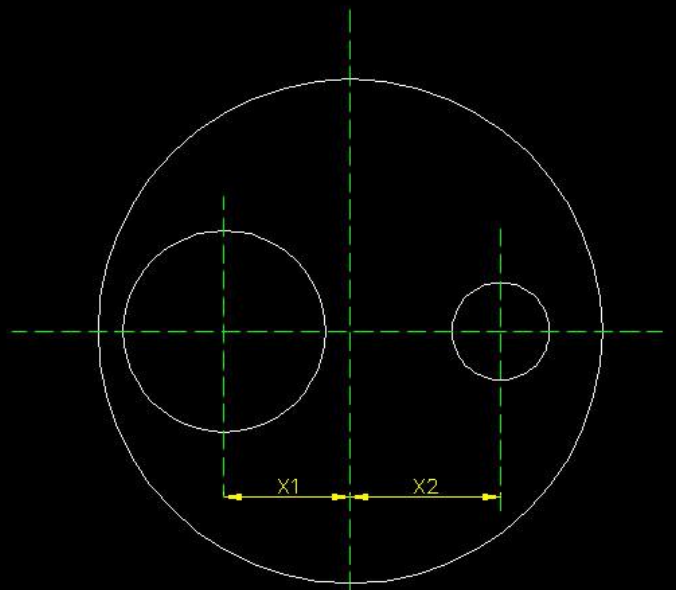



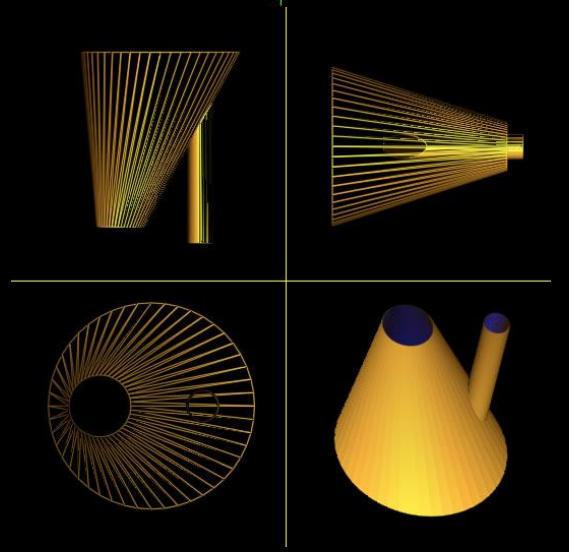


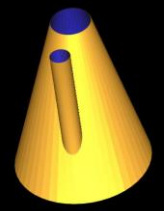
# 033 - Intersecção Cilindro/Cone 90° Alinhada

| | |
|---|---|
| D1A | 1000 |
| D1B | 300 |
| D2 | 200 |
| H1 | 1100 |
| H2 | 1200 |
| X1 | 250 |
| X2 | 250 |
| Ndiv1 | 32 ... |
| Ndiv2 | 16 ... |
| Qtd | 1 |
| Calcular | 1+2 |
| Calcular 3D | Sim |
| Método | M+M ... |
| e1 | 10 (Aço) ... |
| e2 | 10 (Aço) ... |



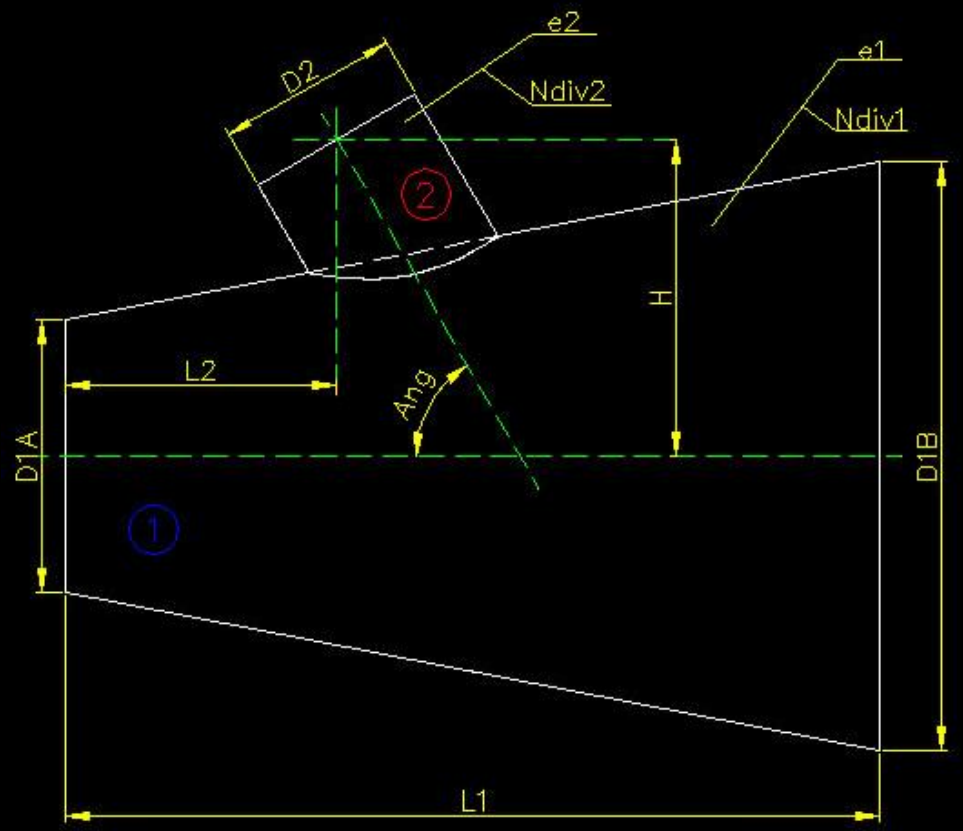



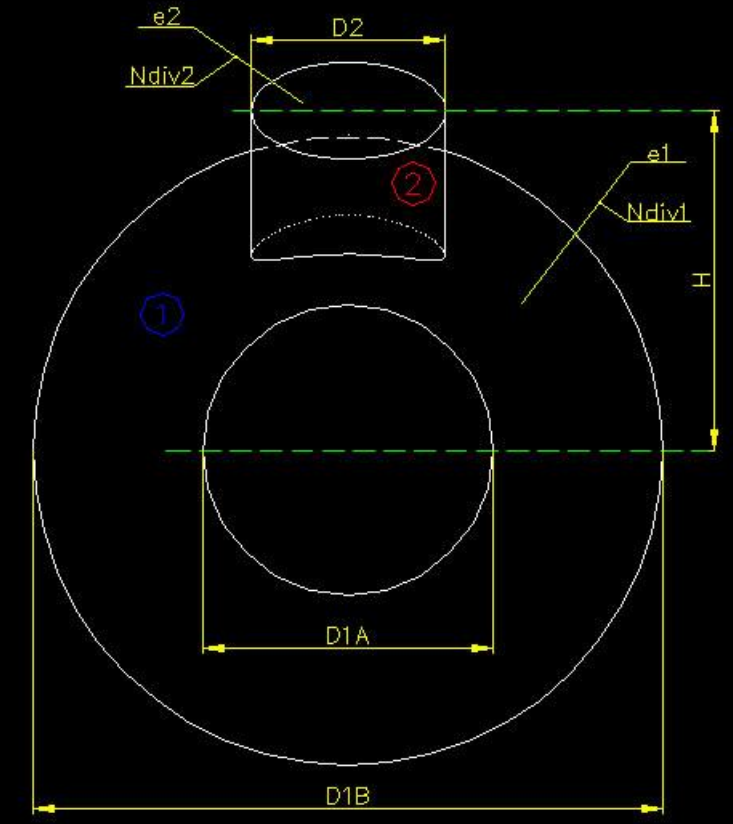


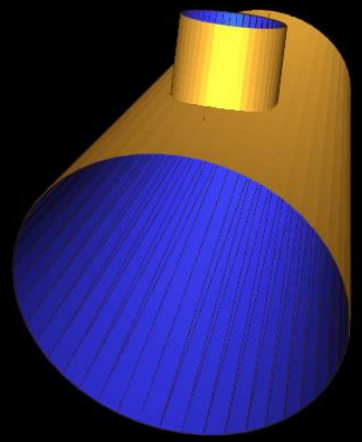
# 036 - Intersecção Cil/Cone (1)

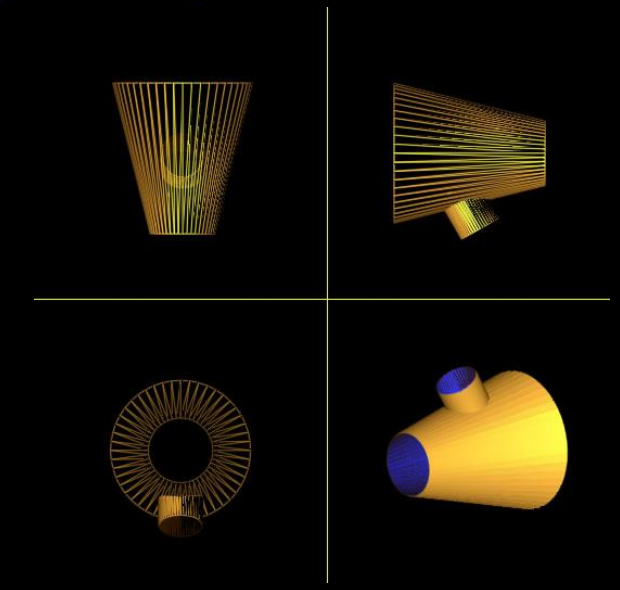
**Variantes de cotação:** Anterior | Próxima

| | |
|---|---|
| **D1A** | 600 |
| **D1B** | 1000 |
| **D2** | 400 |
| **L1** | 1500 |
| **L2** | 600 |
| **H** | 700 |
| **Ang** | 60 |
| **Ndiv1** | 32 ... |
| **Ndiv2** | 16 ... |
| **Qtd** | 1 |
| **Calcular** | 1+2 ▼ |
| **Calcular 3D** | Sim ▼ |
| **Método** | M+M ... |
| **e1** | 10 (Aço) ... |
| **e2** | 8 (Aço) ... |



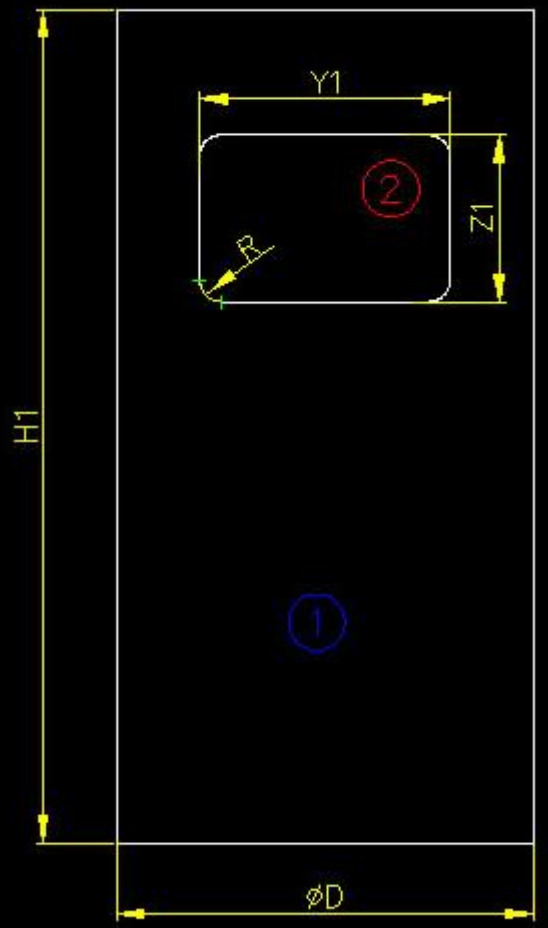



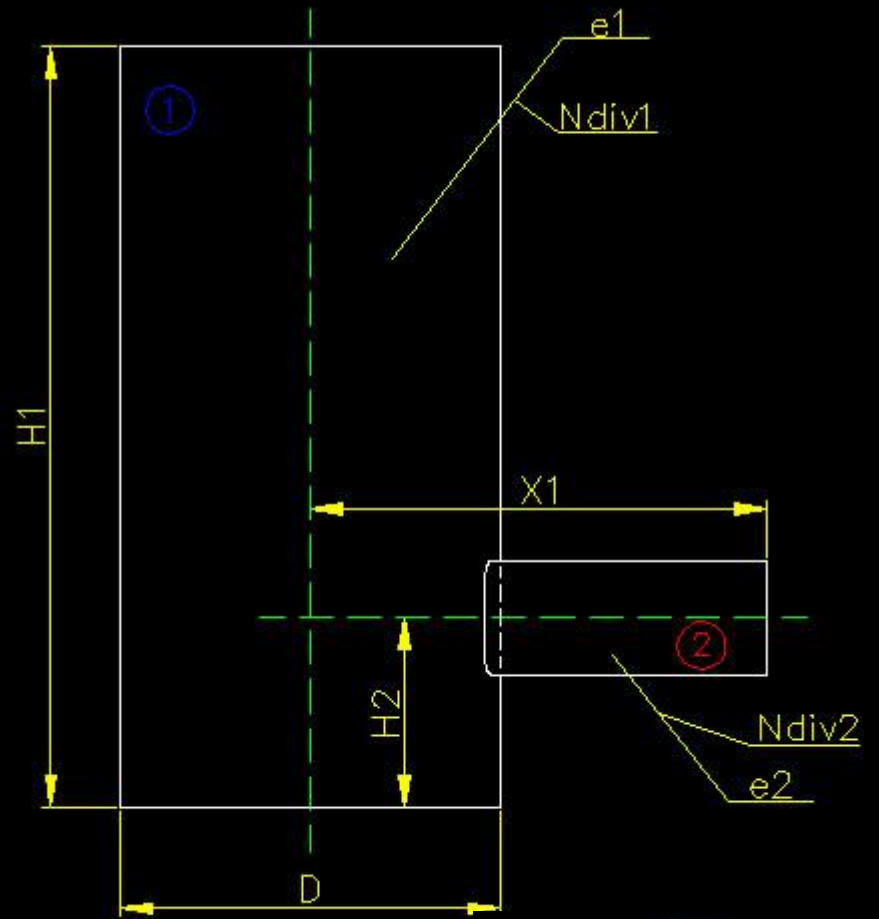



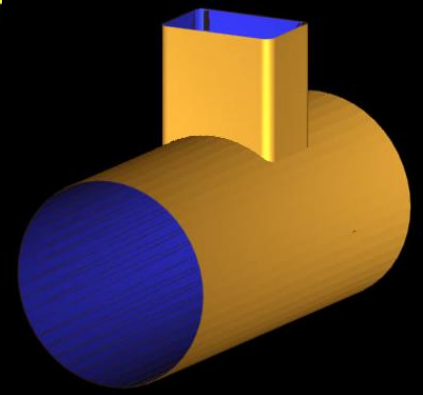


# 038 - Intersecção Ret/Cil 90°

| | |
|---|---|
| D | 1000 |
| H1 | 2000 |
| H2 | 500 |
| X1 | 1000 |
| Y1 | 500 |
| Z1 | 400 |
| R | 50 |
| Ndiv1 | 32 ... |
| Ndiv2 | 16 ... |
| Qtd | 1 |
| Calcular | 1+2 |
| Calcular 3D | Sim |
| Método | M+M ... |
| e1 | 10 (Aço) ... |
| e2 | 8 (Aço) ... |

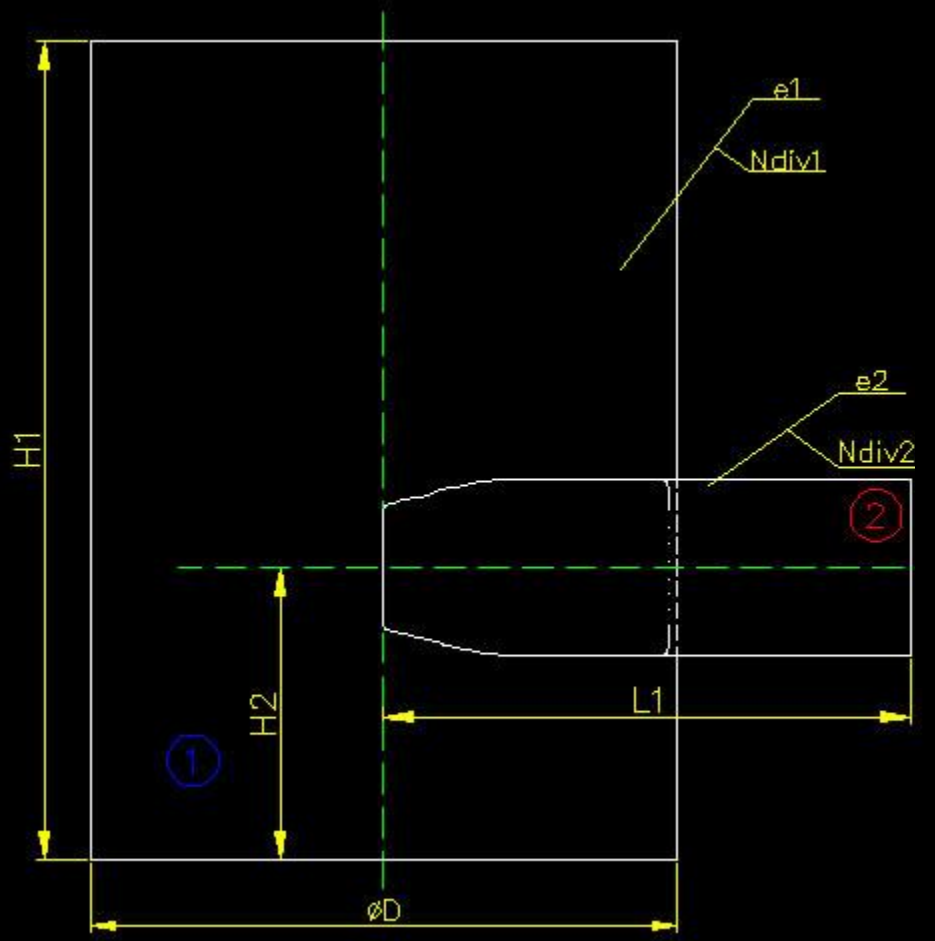


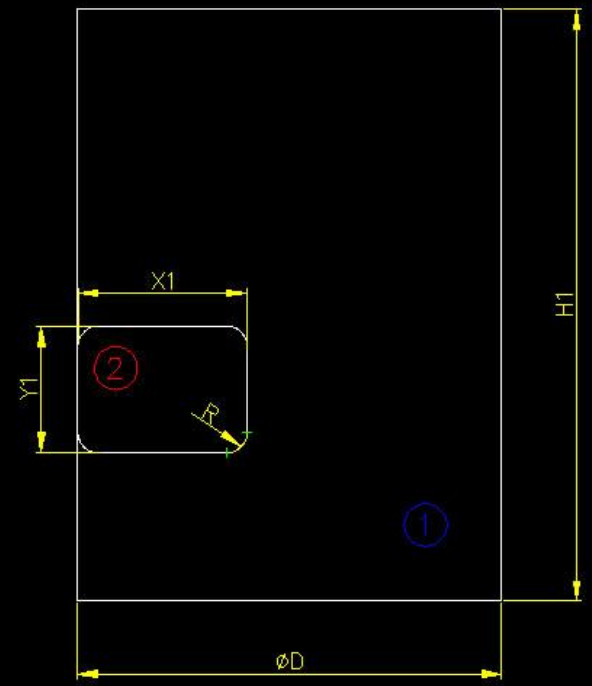



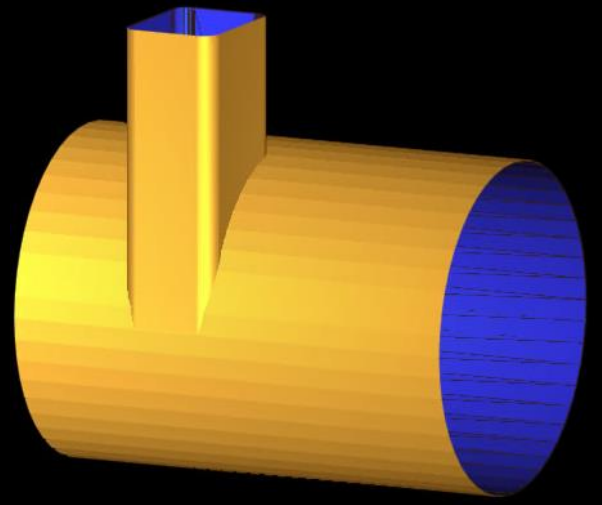



# 039 - Intersecção Ret/Cil 90° Alinhada

| | |
|---|---|
| D | 1000 |
| H1 | 2000 |
| H2 | 500 |
| X1 | 200 |
| Y1 | 200 |
| L1 | 1300 |
| R | 50 |
| Ndiv1 | 32 ... |
| Ndiv2 | 16 ... |
| Qtd | 1 |
| Calcular | 1+2 |
| Calcular 3D | Sim |
| Método | M+M ... |
| e1 | 10 (Aço) ... |
| e2 | 10 (Aço) ... |

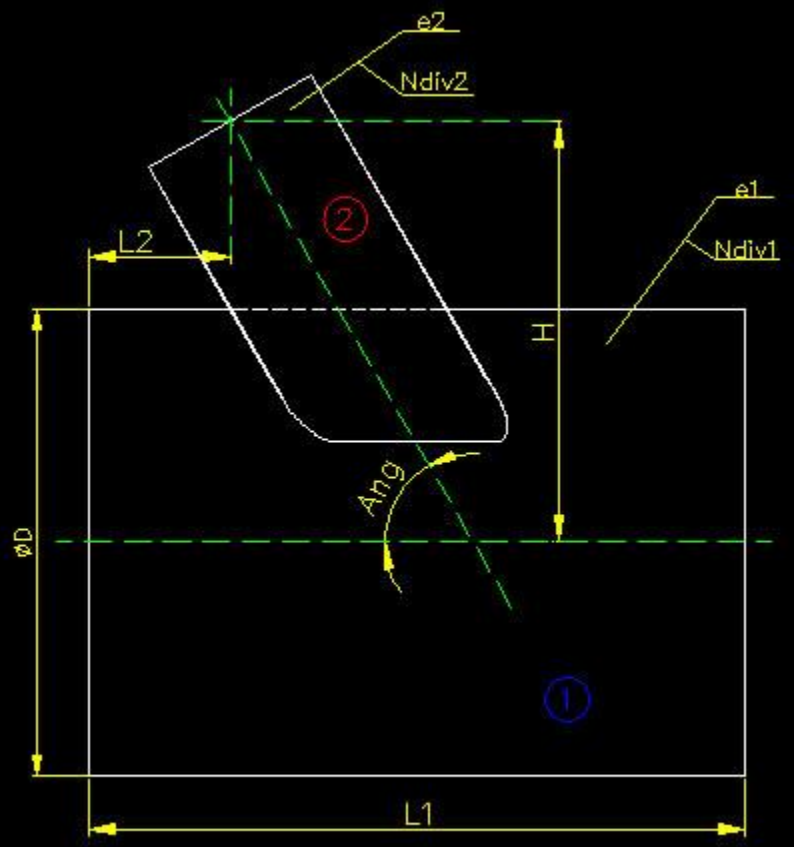


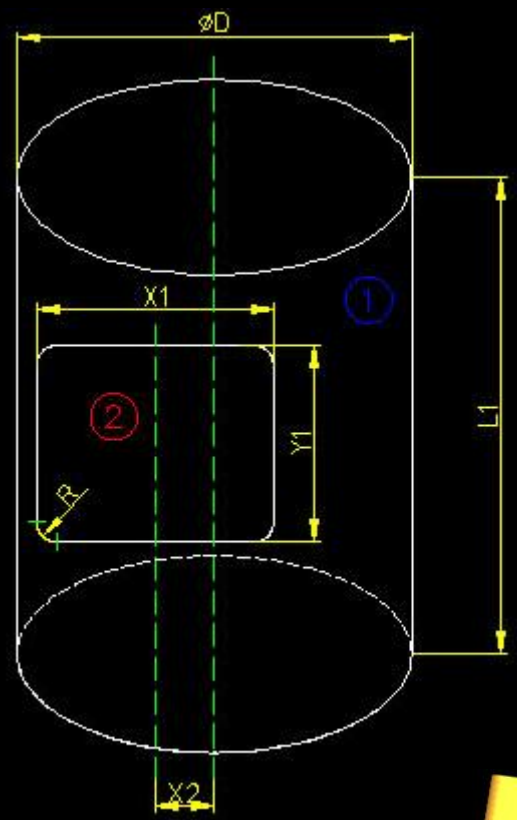



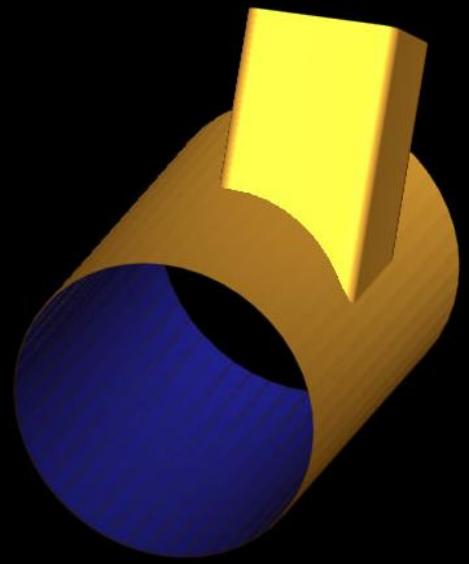



# 042 - Intersecção Ret/Cil Ângulo Excêntrica

| | |
|---|---|
| D | 1000 |
| L1 | 1500 |
| L2 | 300 |
| X1 | 500 |
| Y1 | 400 |
| X2 | 100 |
| H | 1000 |
| R | 50 |
| Ang | 60 |
| Ndiv1 | 32 ... |
| Ndiv2 | 16 ... |
| Qtd | 1 |
| Calcular | 1+2 ▼ |
| Calcular 3D | Sim ▼ |
| Método | M+M ... |
| e1 | 10 (Aço) ... |
| e2 | 8 (Aço) ... |

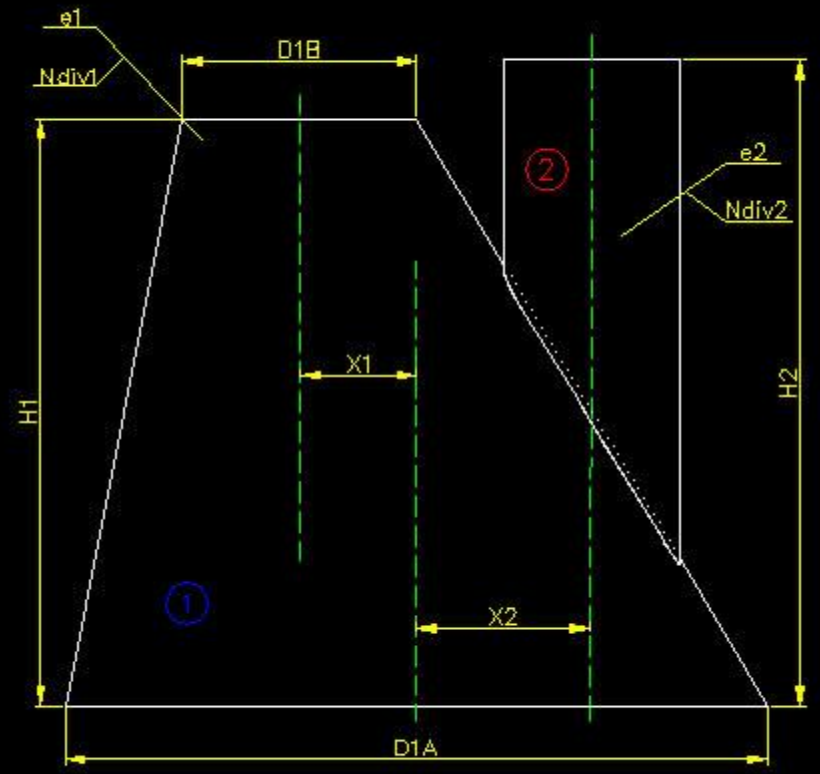


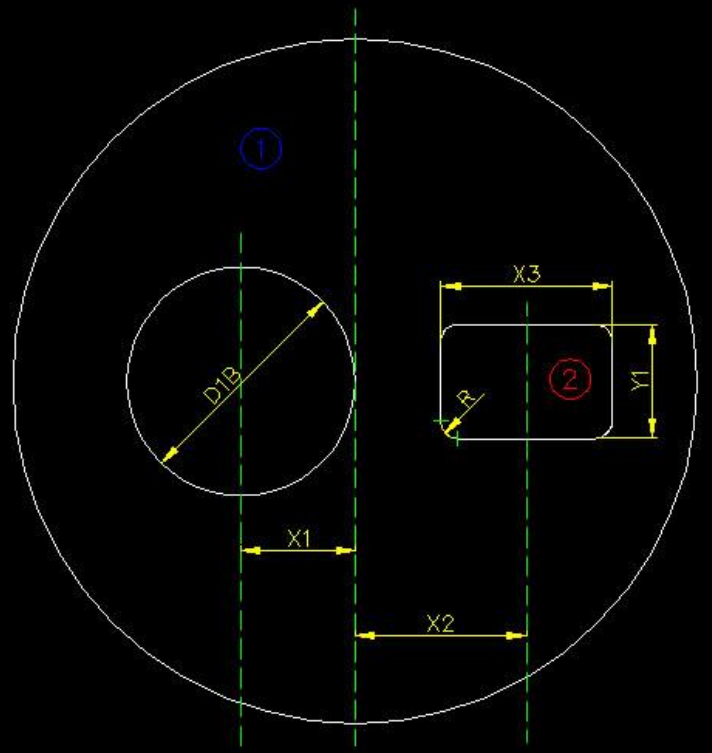



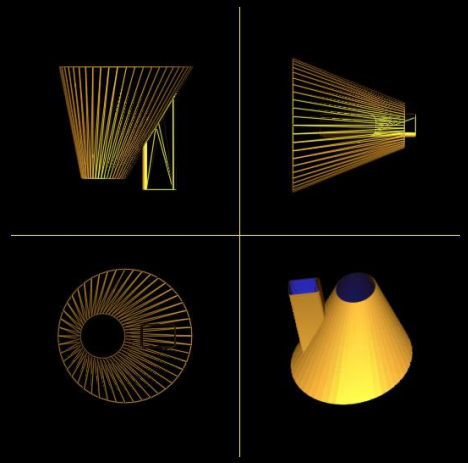



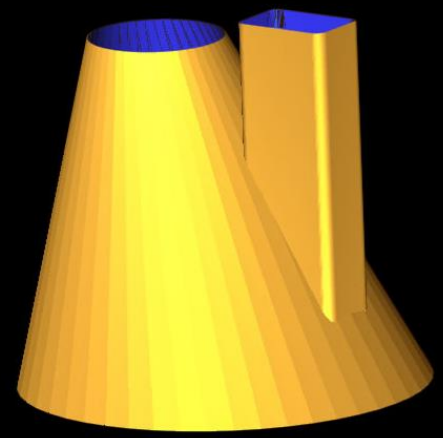
# 043 - Intersecção Ret/Cone 90°

| | |
|---|---|
| D1A | 1200 |
| D1B | 400 |
| X1 | 200 |
| X2 | 300 |
| X3 | 300 |
| H1 | 1000 |
| H2 | 1100 |
| Y1 | 200 |
| R | 30 |
| Ndiv1 | 32 ... |
| Ndiv2 | 16 ... |
| Qtd | 1 |
| Calcular | 1+2 |
| Calcular 3D | Sim |
| Método | M+M ... |
| e1 | 10 (Aço) ... |
| e2 | 10 (Aço) ... |



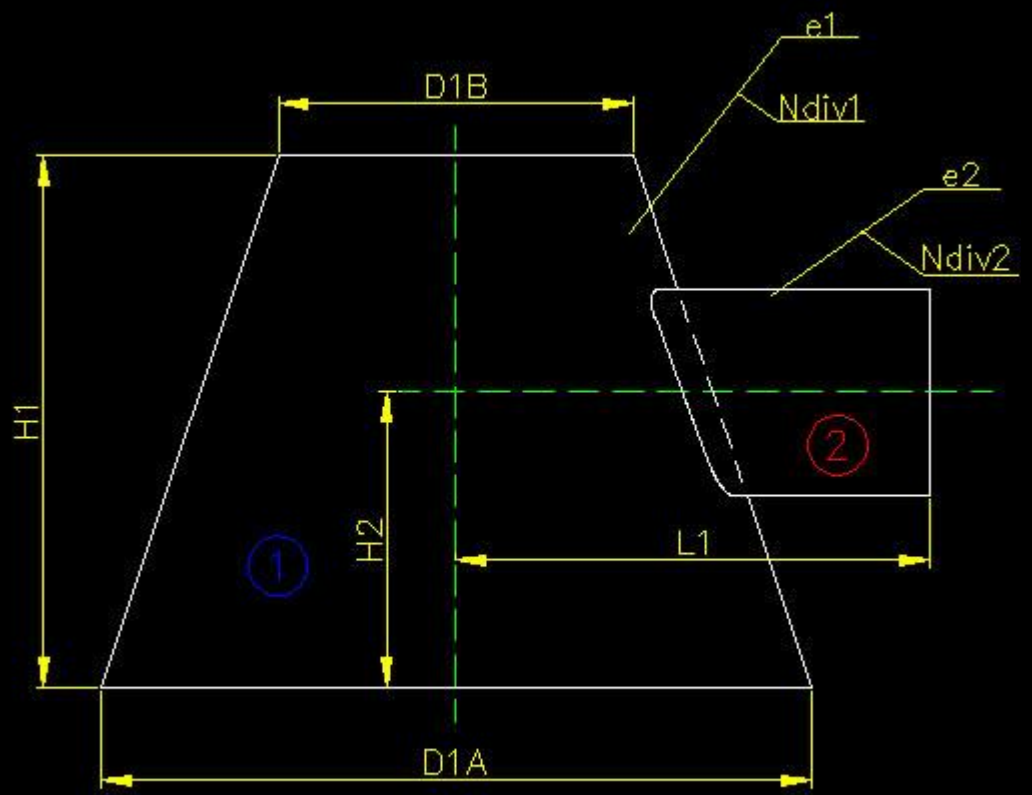



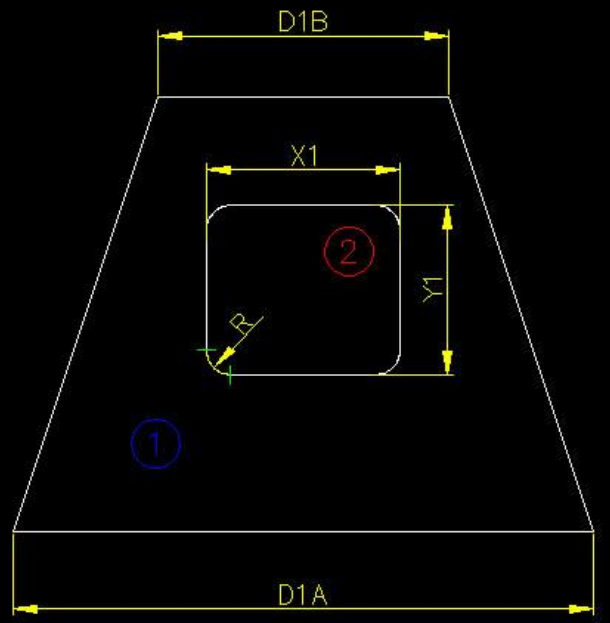



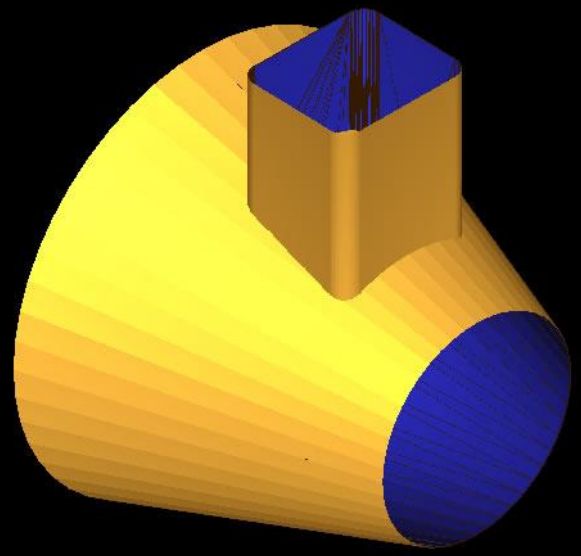


# 045 - Intersecção Ret/Cone ☆

| | |
|---|---|
| D1A | 1200 |
| D1B | 600 |
| H1 | 900 |
| H2 | 500 |
| L1 | 800 |
| X1 | 300 |
| Y1 | 250 |
| R | 50 |
| Ndiv1 | 32 ... |
| Ndiv2 | 16 ... |
| Qtd | 1 |
| Calcular | 1+2 ▼ |
| Calcular 3D | Sim ▼ |
| Método | M+M ... |
| e1 | 10 (Aço) ... |
| e2 | 8 (Aço) ... |



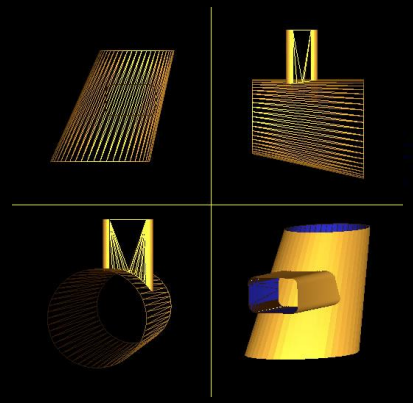



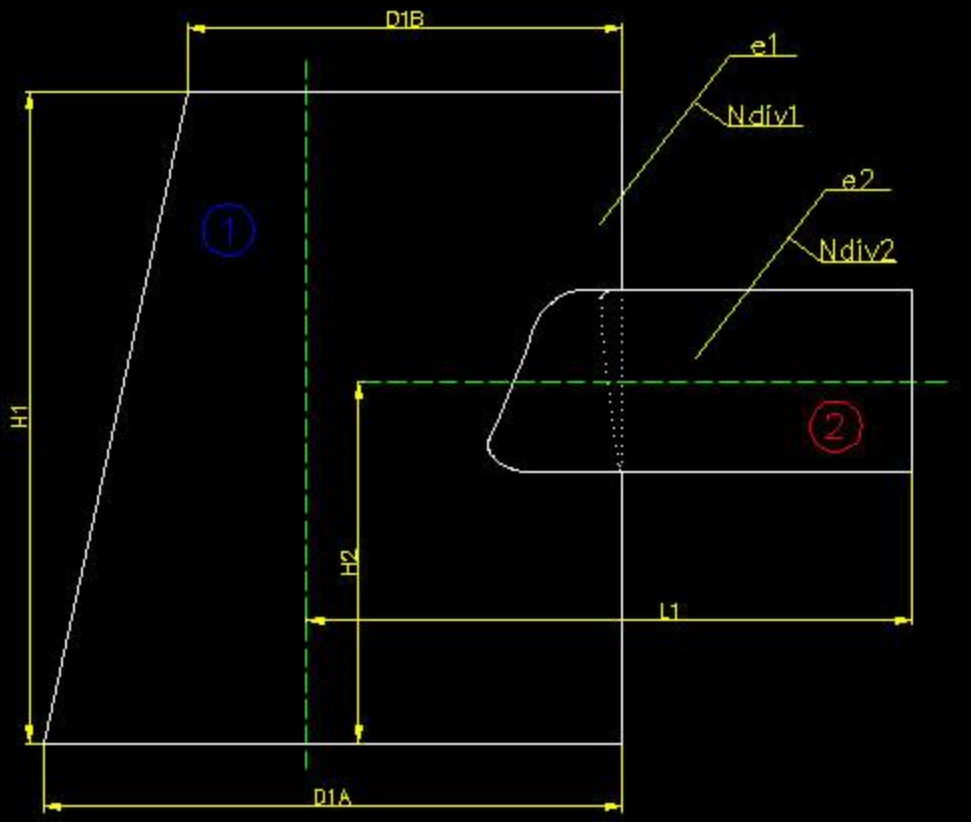



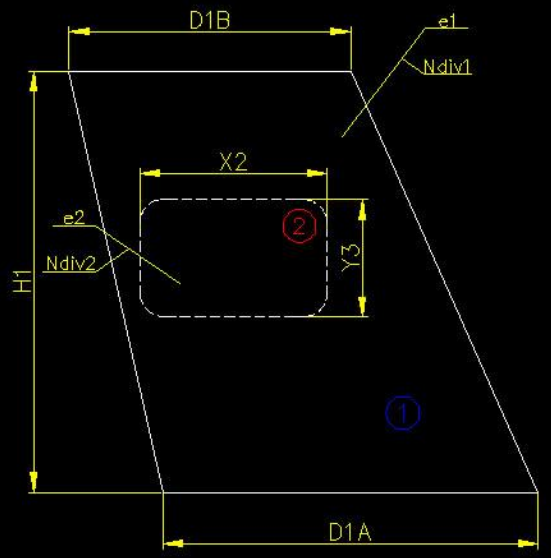
# 046 - Intersecção Ret/Cone Excêntrica

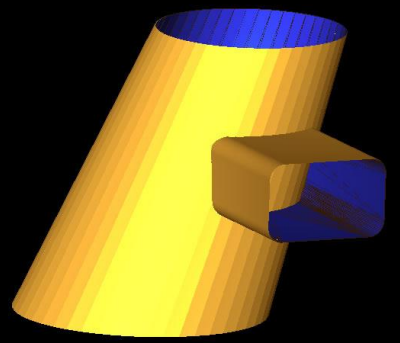
| | |
|---|---|
| D1A | 1200 |
| D1B | 750 |
| H1 | 1200 |
| H2 | 600 |
| X1 | 350 |
| X2 | 550 |
| Y1 | 100 |
| Y2 | 150 |
| Y3 | 400 |
| L1 | 1000 |
| R | 50 |
| Ndiv1 | 32 |
| Ndiv2 | 16 |
| Qtd | 1 |
| Calcular | 1+2 |

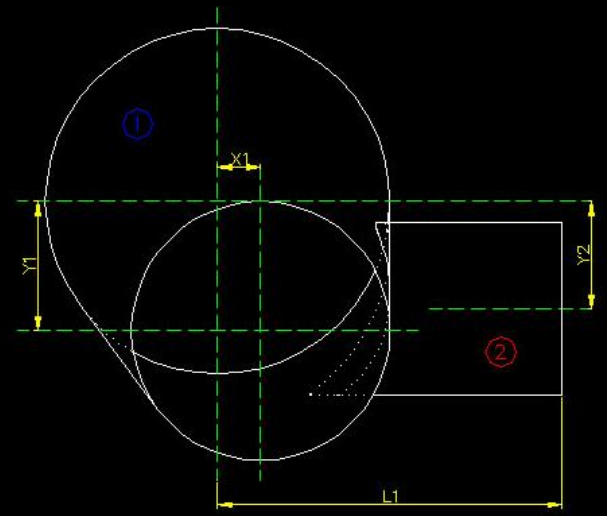
| | |
|---|---|
| Calcular 3D | Sim |
| Método | M+M |
| e1 | 10 (Aço) |
| e2 | 8 (Aço) |
| PLN(%) | 50 |





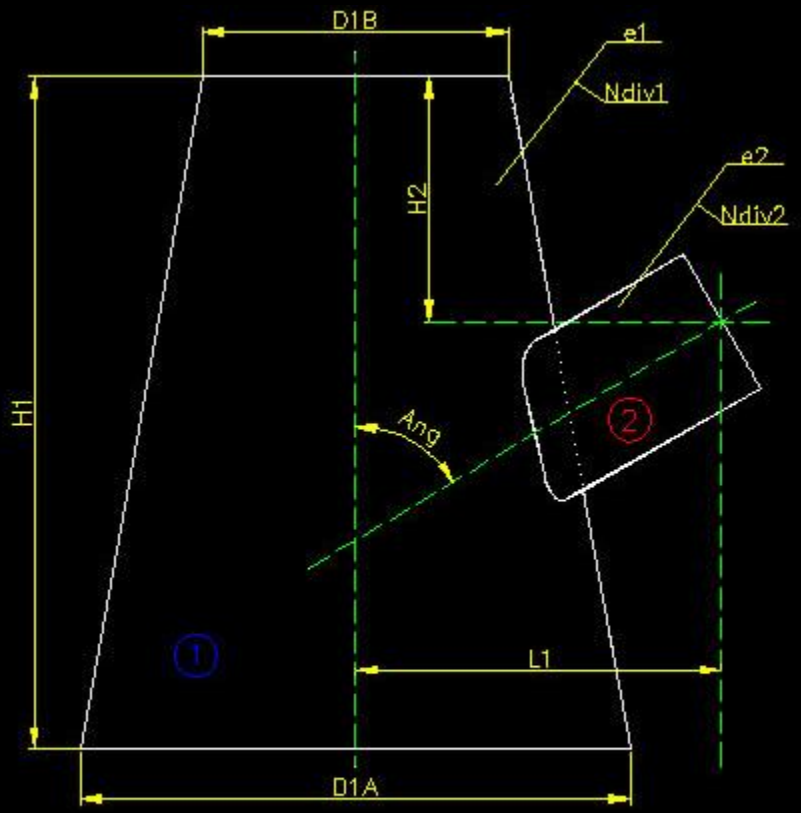



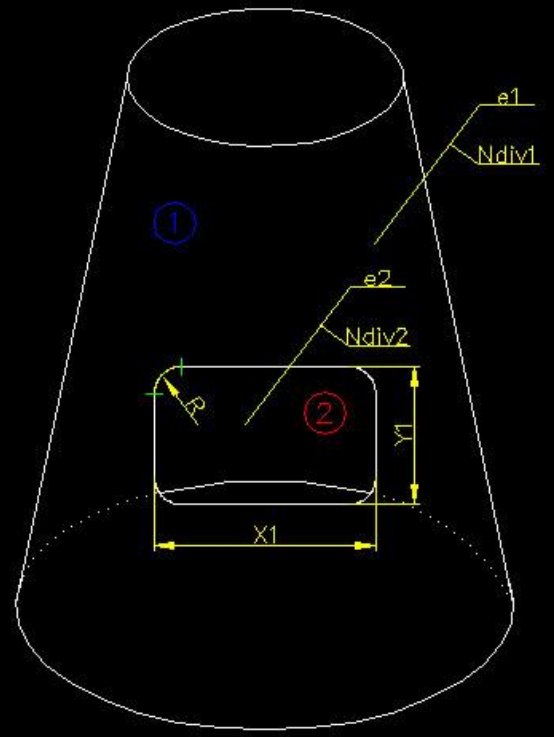



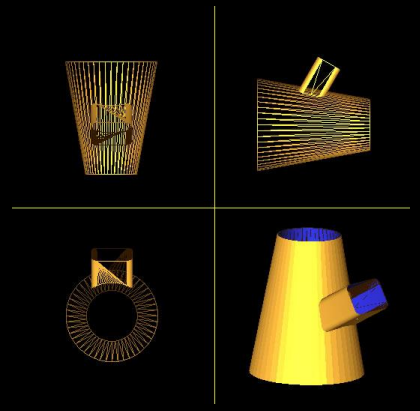


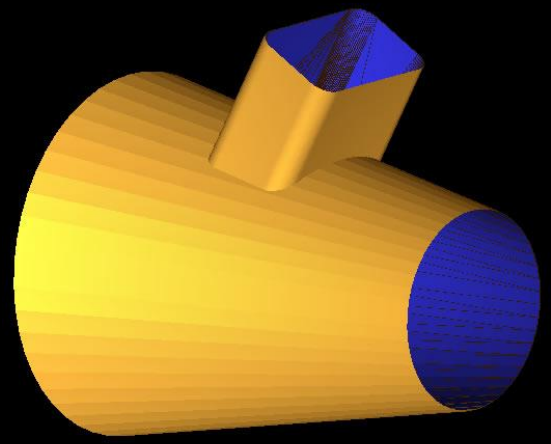
# 047 - Intersecção Ret/Cone Inclinado

| | |
|---|---|
| D1A | 1200 |
| D1B | 600 |
| H1 | 1100 |
| H2 | 20 |
| Ang | 60 |
| X1 | 400 |
| Y1 | 300 |
| L1 | 1000 |
| R | 50 |
| Ndiv1 | 32 ... |
| Ndiv2 | 16 ... |
| Qtd | 1 |
| Calcular | 1+2 ▼ |
| Calcular 3D | Sim ▼ |
| Método | M+M ... |
| e1 | 10 (Aço) ... |
| e2 | 8 (Aço) ... |



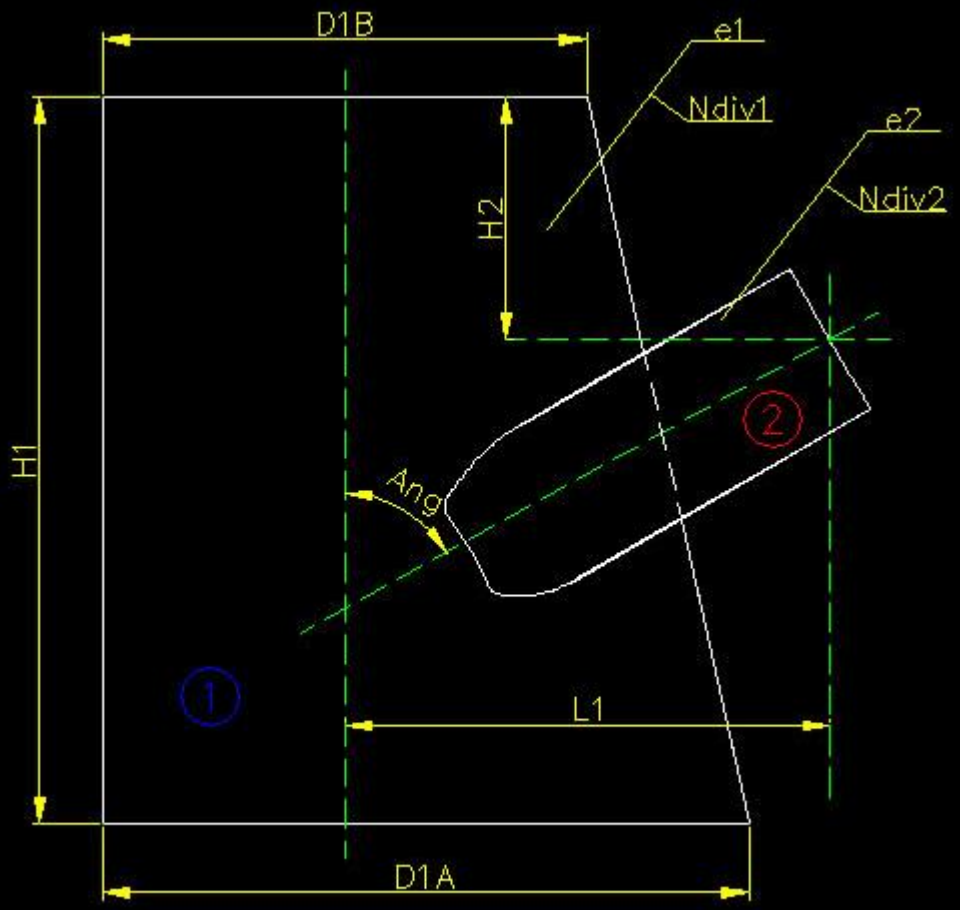



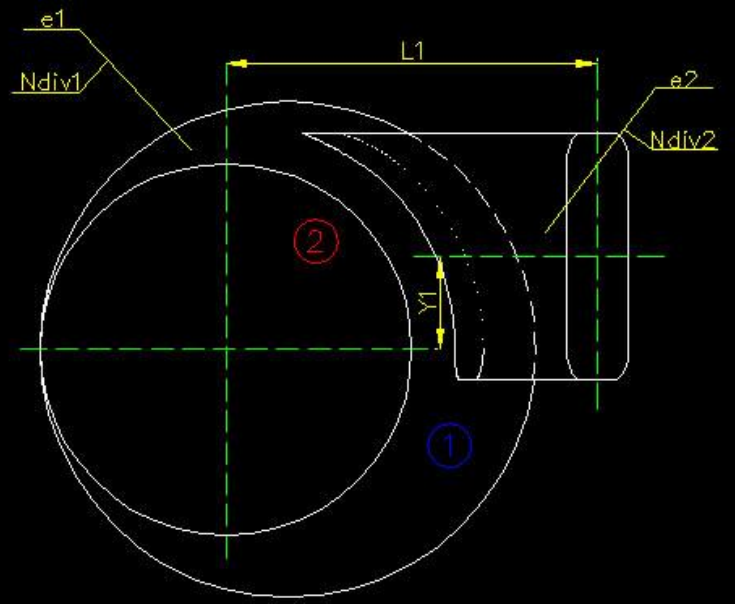



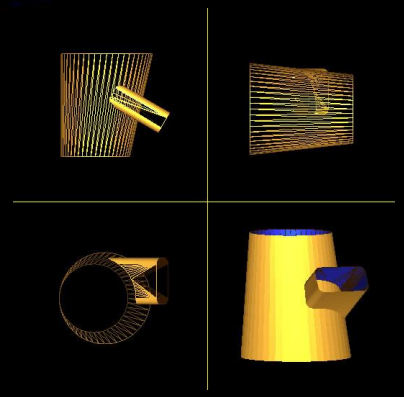


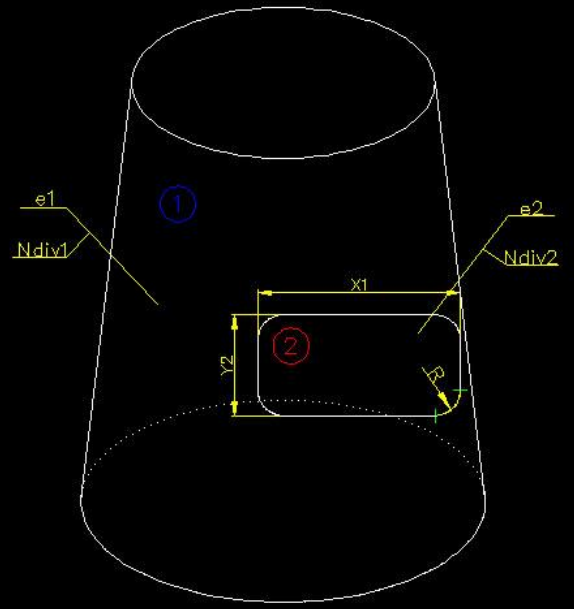
# 051 - Int. Ret/Cone Inclinado Apoiada Excêntrica

| | |
|---|---|
| D1A | 1100 |
| D1B | 600 |
| H1 | 900 |
| H2 | 300 |
| L1 | 900 |
| Ang | 60 |
| Y1 | 200 |
| Y2 | 200 |
| X1 | 400 |
| R | 50 |
| Ndiv1 | 32 ... |
| Ndiv2 | 16 ... |
| Qtd | 1 |
| Calcular | 1+2 ▼ |
| Calcular 3D | Sim ▼ |
| Método | M+M ... |
| e1 | 10 (Aço) ... |
| e2 | 8 (Aço) ... |



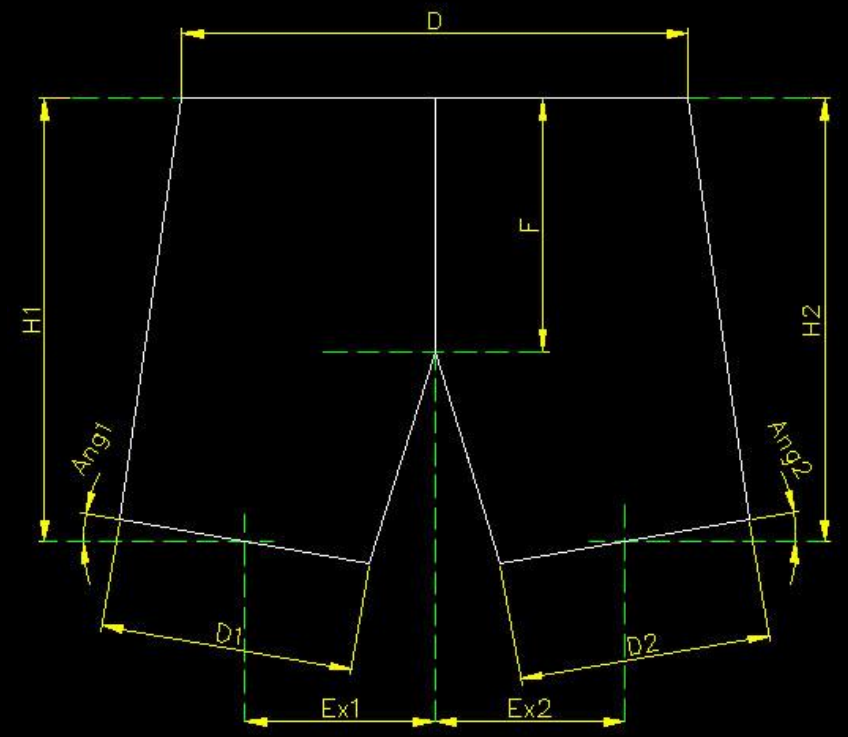



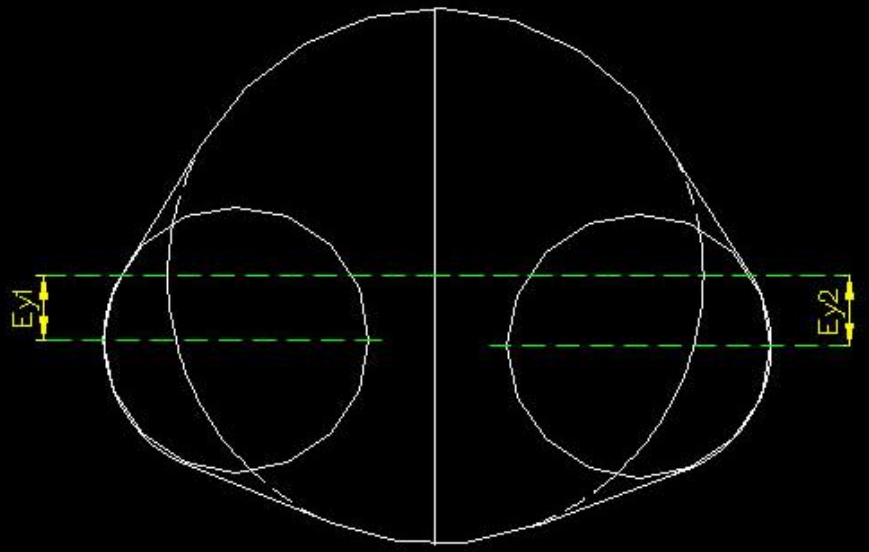


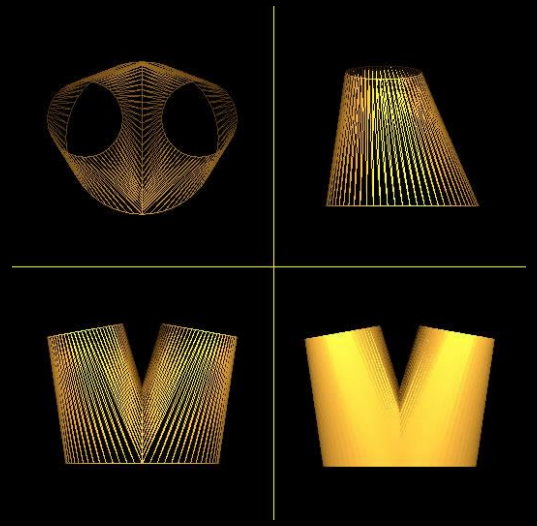


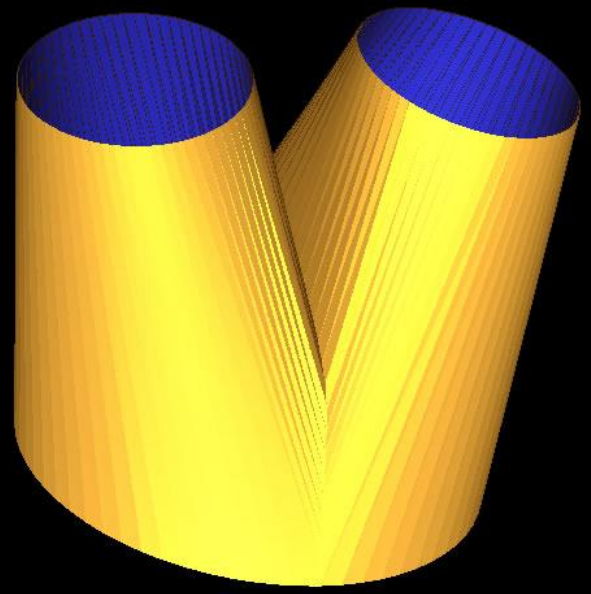
# 052 - Bifurcação Cônica (Calça)

| | |
|---|---|
| D | 1000 |
| F | 300 |
| H1 | 600 |
| H2 | 700 |
| Ang1 | 30 |
| Ang2 | 40 |
| D1 | 250 |
| D2 | 350 |
| Ex1 | 300 |
| Ex2 | 350 |
| Ey1 | 100 |
| Ey2 | 150 |
| Ndiv | 32 ... |
| Qtd | 1 |
| Calcular 3D | Sim ▼ |
| e1 | 12,7 (Aço) ... |



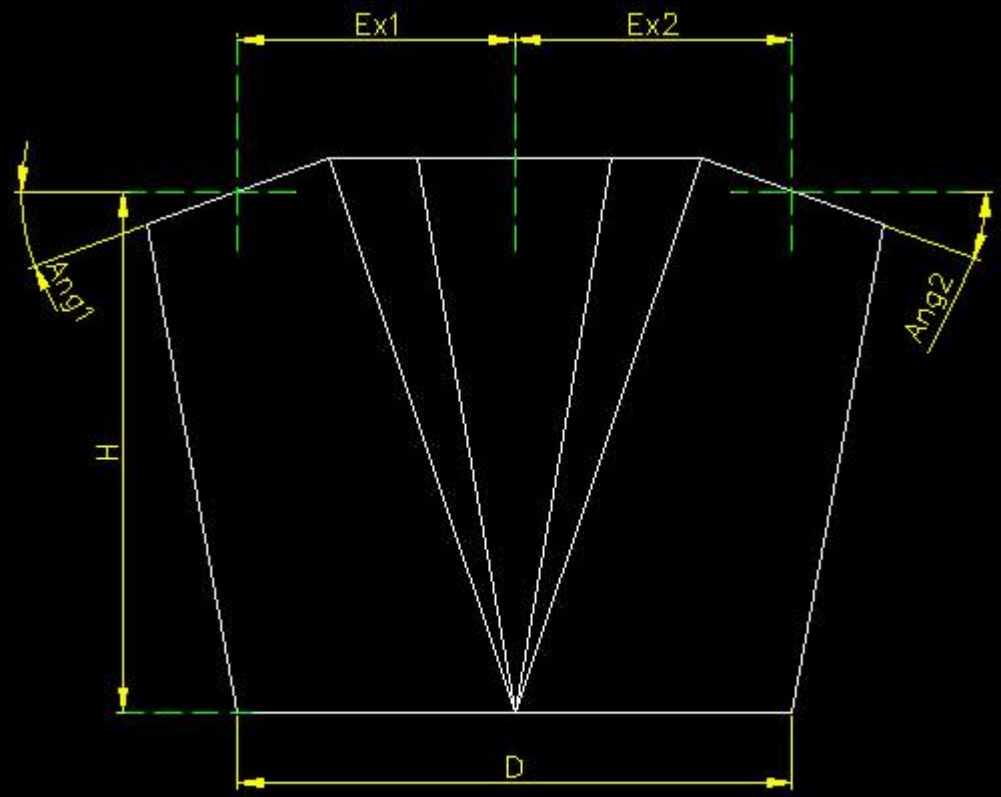



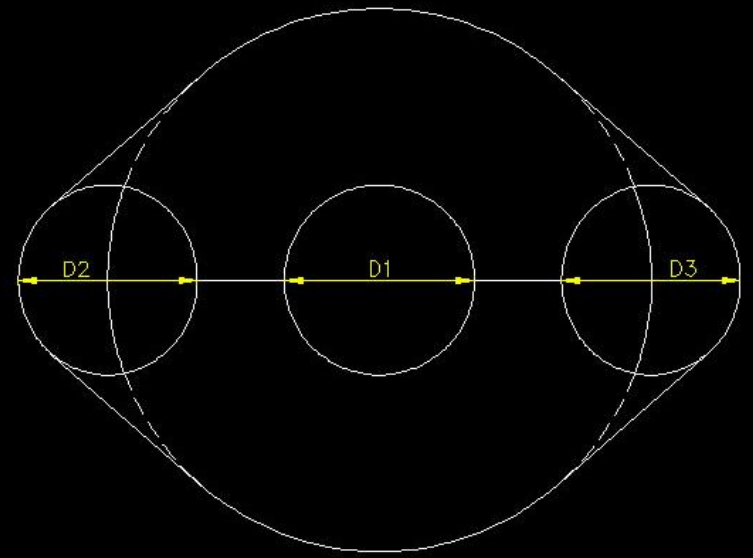



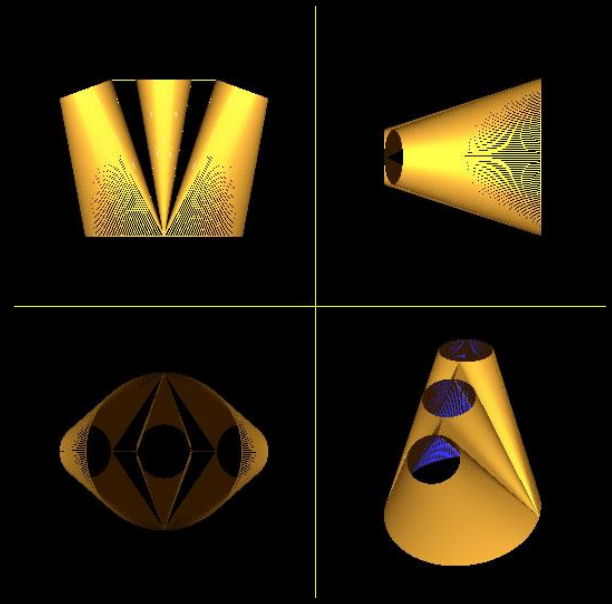


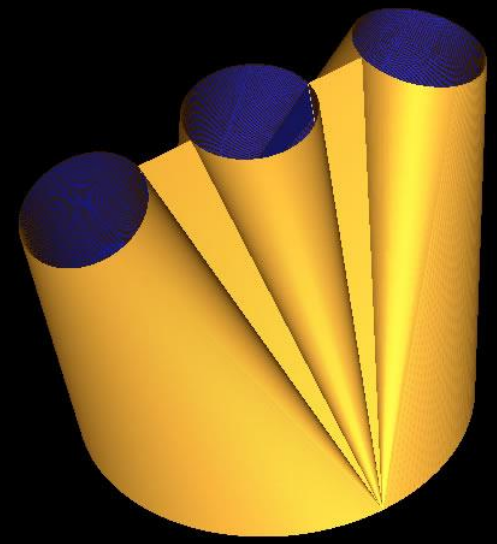
# 054 - Trifurcação Unida ☆

| | |
|---|---|
| D | 1000 |
| D1 | 450 |
| D2 | 350 |
| D3 | 290 |
| H | 900 |
| Ang1 | 35 |
| Ang2 | 10 |
| Ex1 | 500 |
| Ex2 | 600 |
| Ndiv | 32 ... |
| Qtd | 1 |
| Calcular 3D | Sim ▼ |
| e1 | 12,7 (Aço) ... |



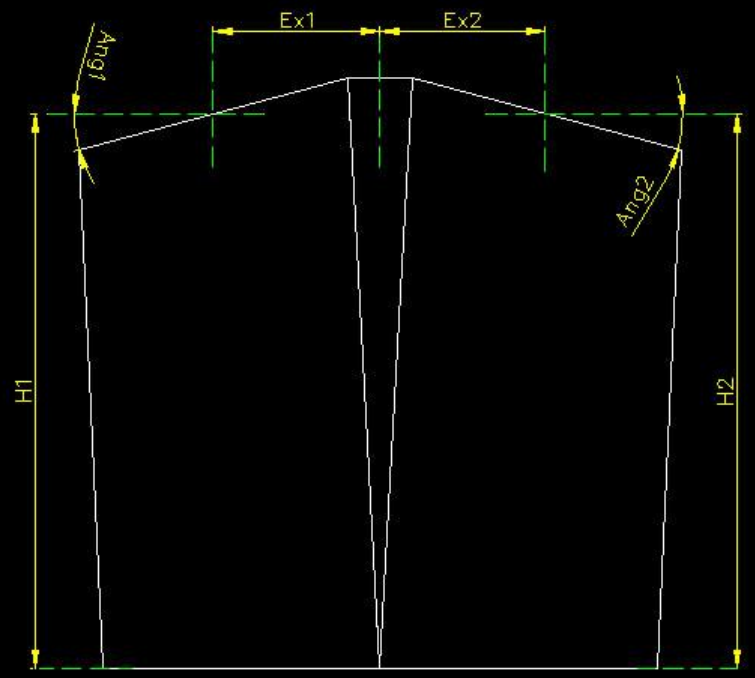



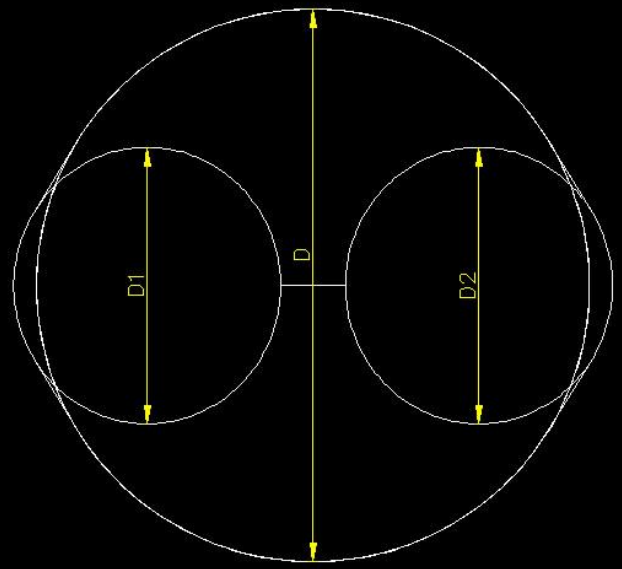



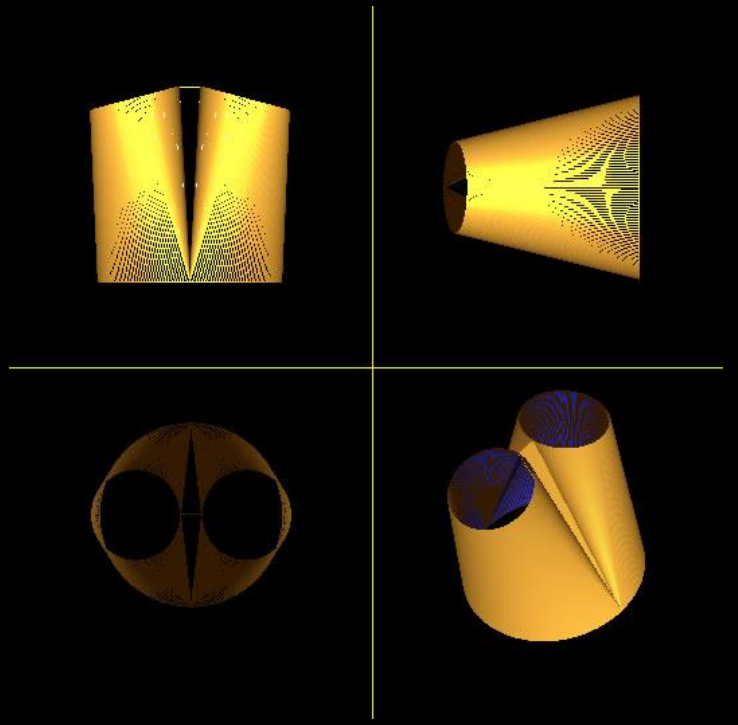


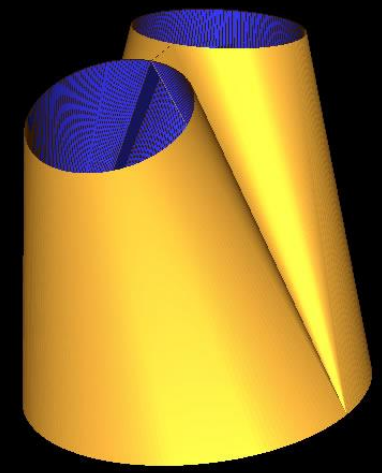
# 055 - Bifurcação Unida ☆

| | |
|---|---|
| D | 1000 |
| D1 | 400 |
| H1 | 500 |
| Ex1 | 400 |
| Ang1 | 30 |
| D2 | 350 |
| H2 | 500 |
| Ex2 | 500 |
| Ang2 | 15 |
| Ndiv | 32 ... |
| Qtd | 1 |
| Calcular 3D | Sim ▼ |
| e1 | 12,7 (Aço) ... |



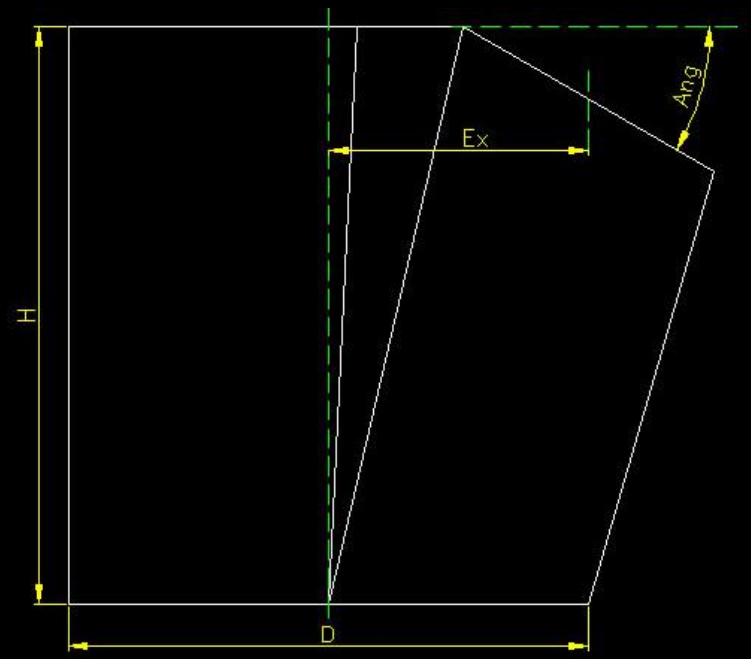



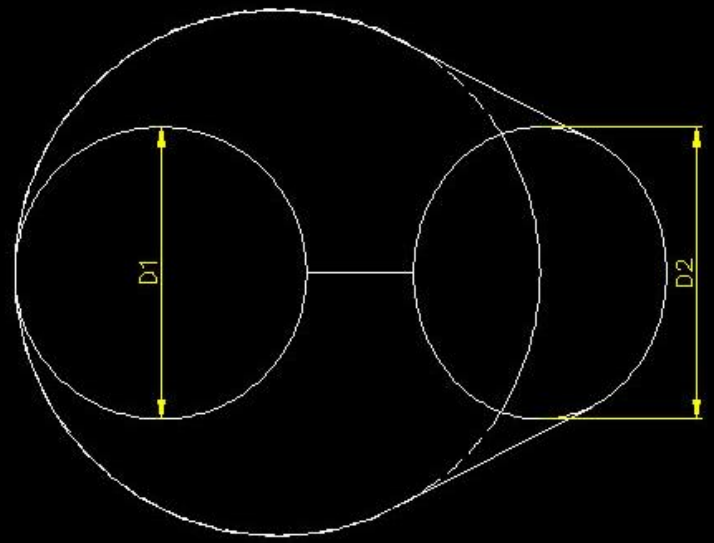



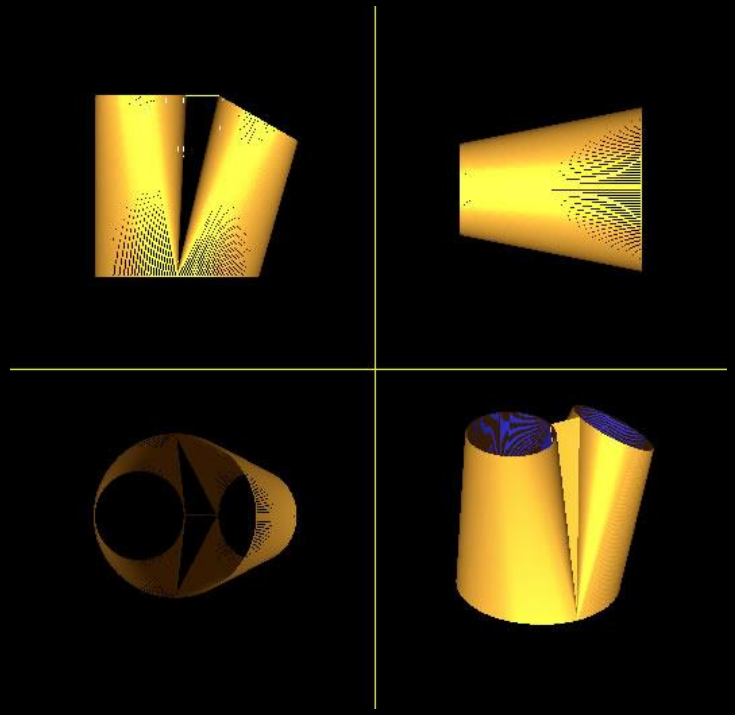


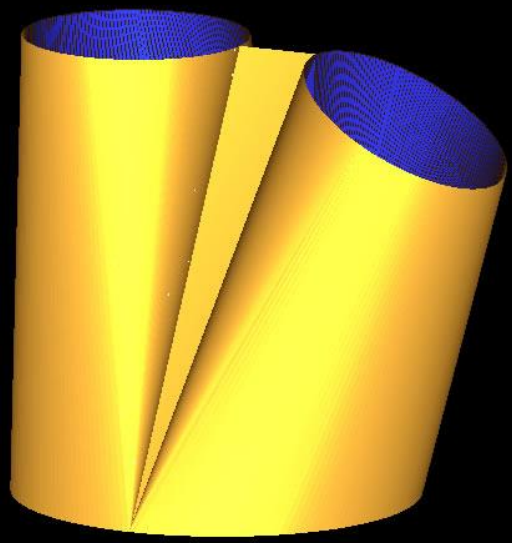
# 056 - Bifurcação Unida Saída Paralela

| | |
|---|---|
| H | 900 |
| D | 800 |
| Ex | 400 |
| Ang | 30 |
| D1 | 490 |
| D2 | 490 |
| Ndiv | 32 ... |
| Qtd | 1 |
| Calcular 3D | Sim ▼ |
| e1 | 7 (Aço) ... |



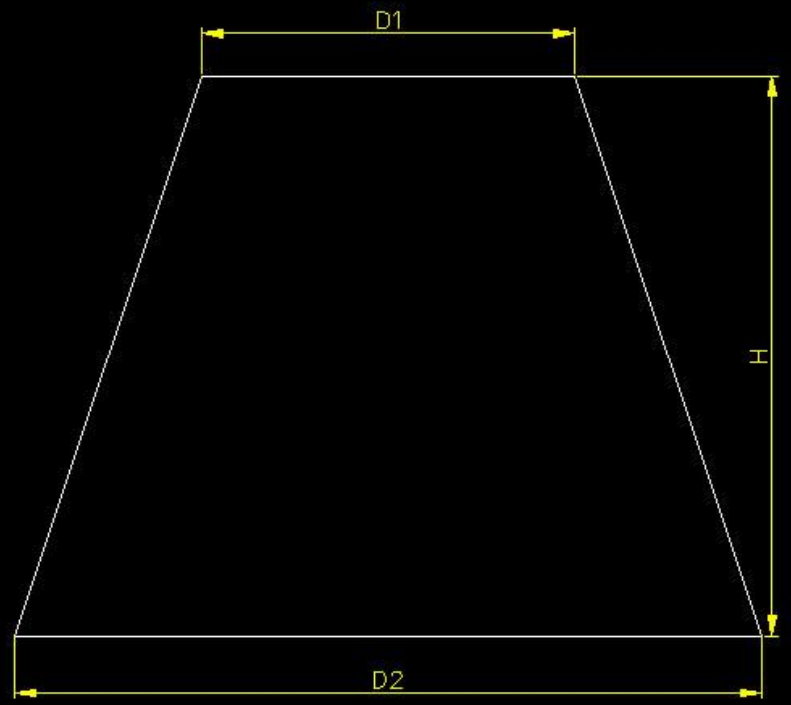



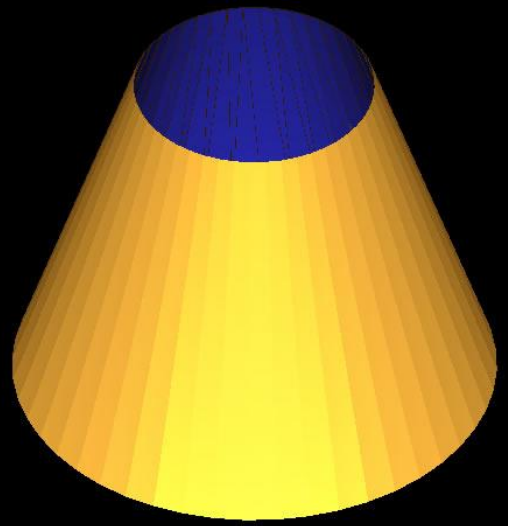


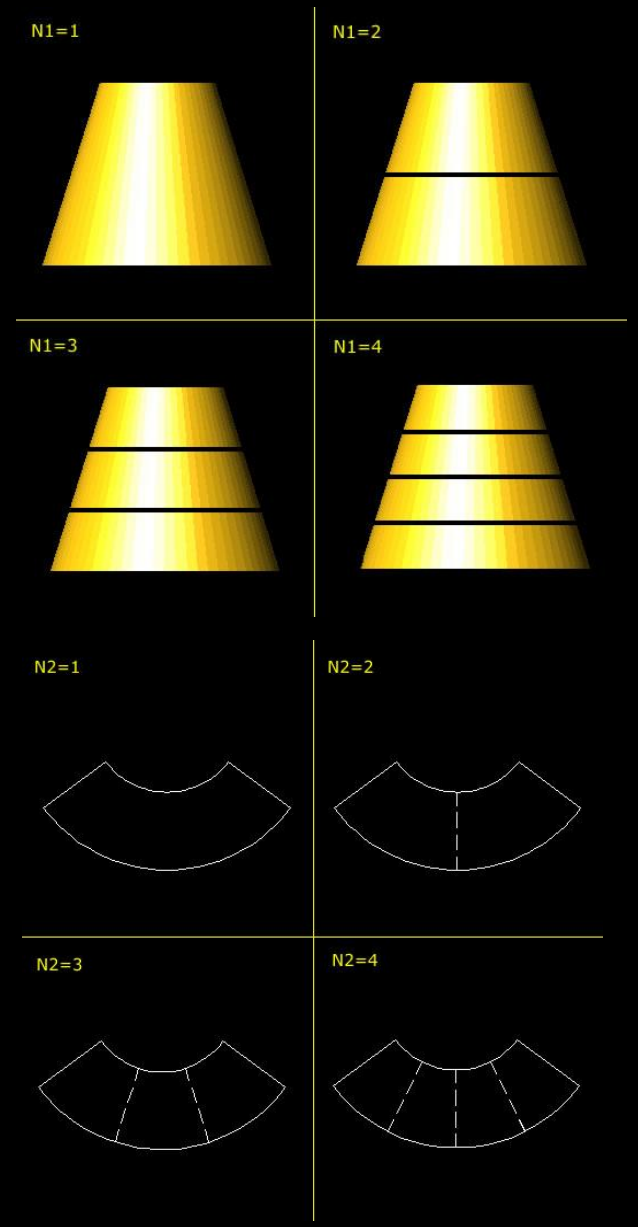
# 058 - Tronco de Cone (1) ★

**Variantes de cotação:** Anterior | Próxima

| | |
|---|---|
| **D1** | 200 |
| **D2** | 400 |
| **H** | 500 |
| **N1** | 1 |
| **N2** | 1 |
| **Qtd** | 1 |
| **Calcular 3D** | Sim |
| **e1** | 1,2 (Aço) ... |

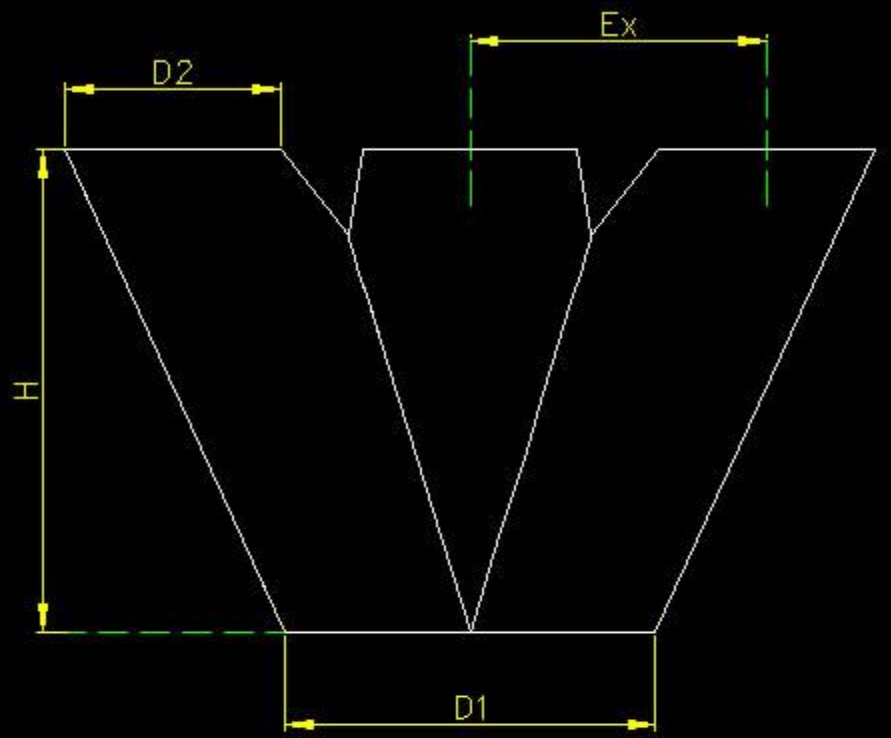


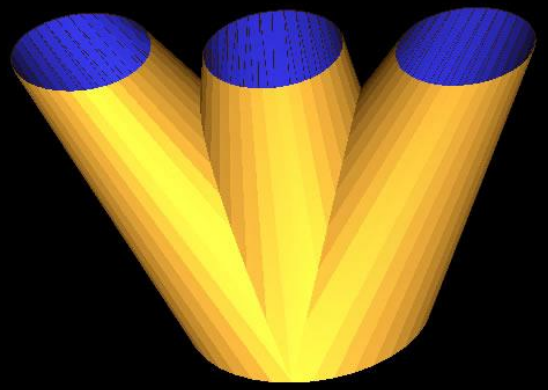



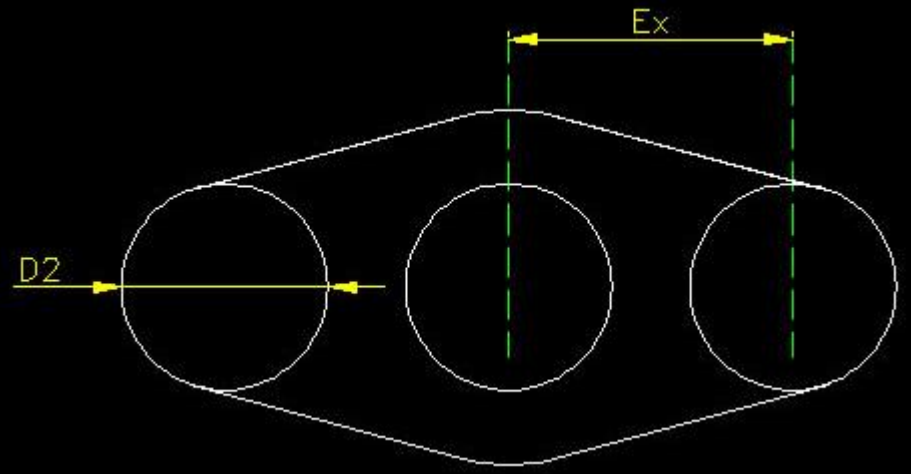


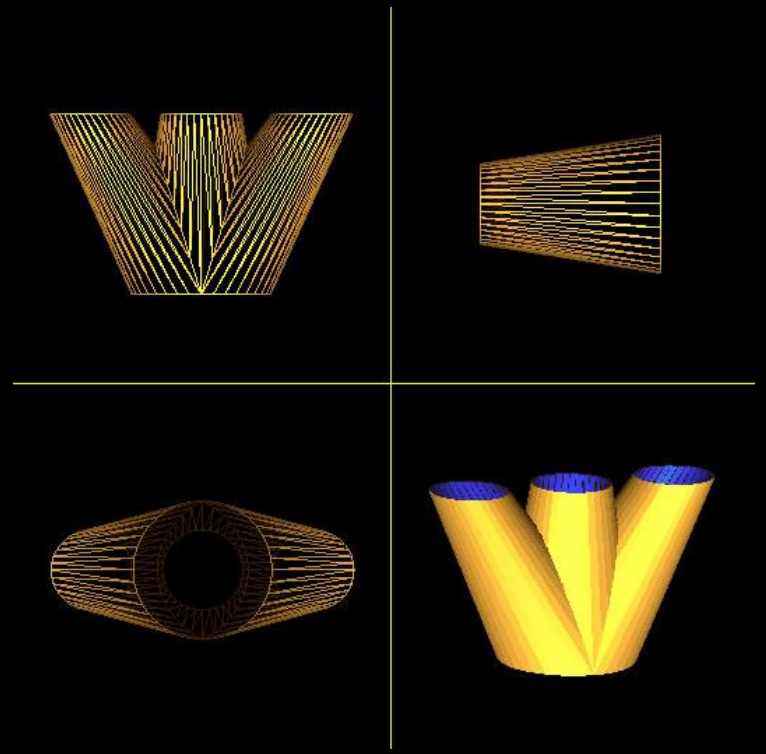
# 063 - Trifurcação Plana ☆

| | |
|---|---|
| D1 | 1000 |
| D2 | 580 |
| Ex | 800 |
| H | 1300 |
| Ndiv | 32 ... |
| Qtd | 1 |
| Calcular 3D | Sim ▼ |
| e | 10 (Aço) ... |



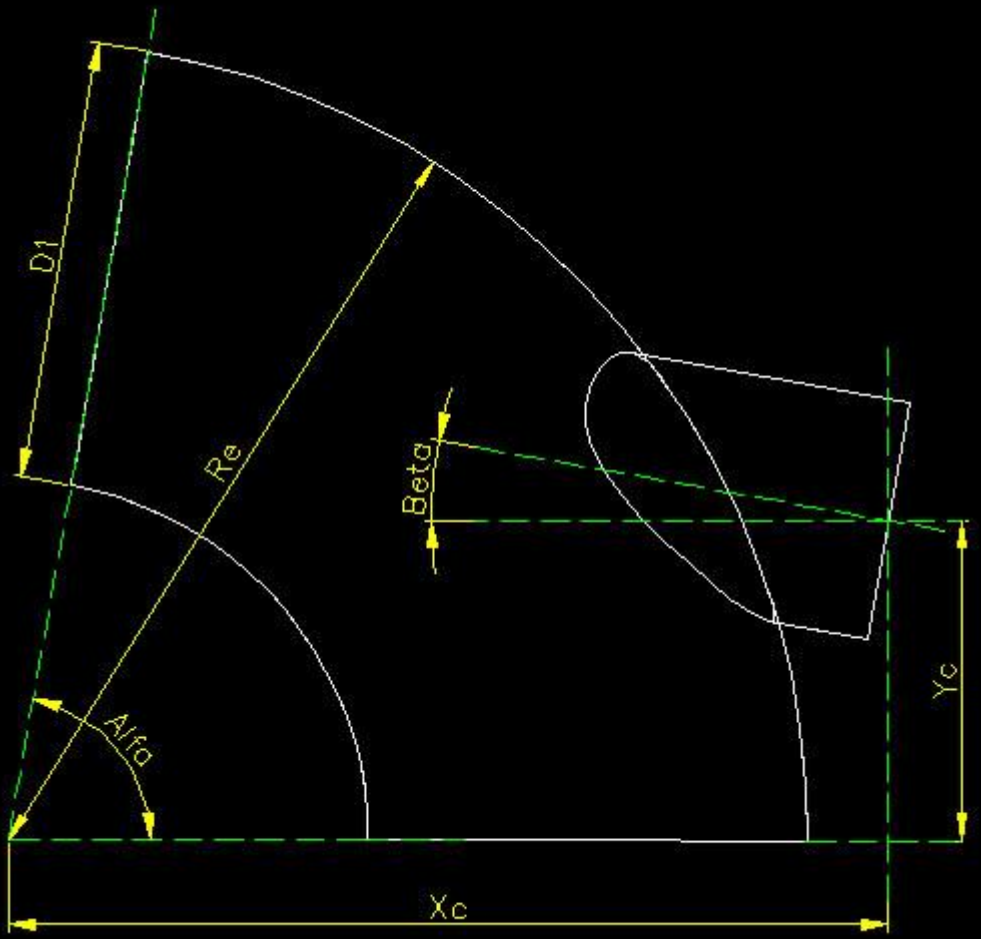



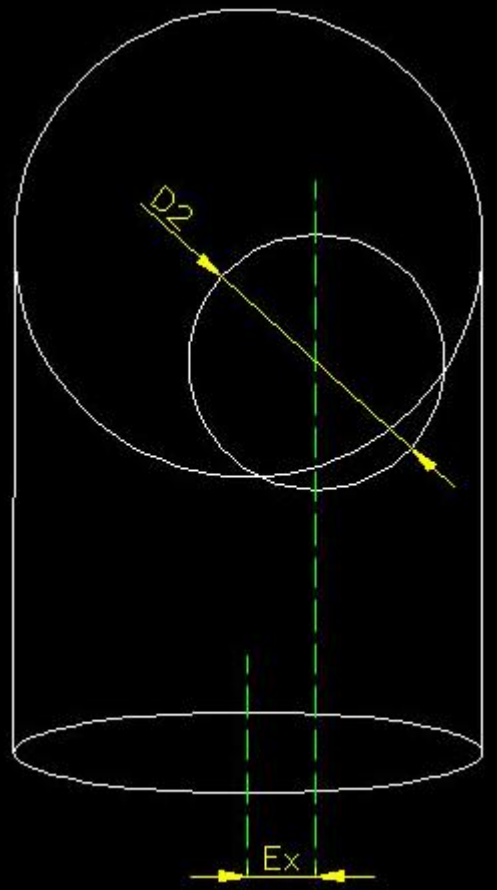


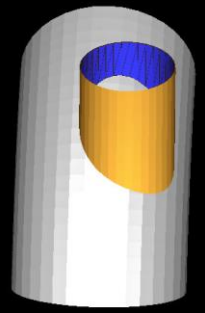



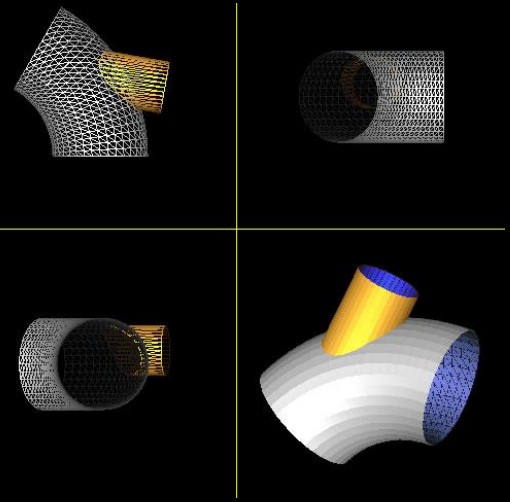
# 064 - Intersecção Cilindro Curva

| | |
|---|---|
| D1 | 550 |
| D2 | 300 |
| Alfa | 60 |
| Re | 1000 |
| Ex | 80 |
| Yc | 400 |
| Xc | 1100 |
| Beta | 10 |
| N div | 16 ... |
| Qtd | 1 |
| Calcular 3D | Sim |
| e | 12,7 (Aço) ... |



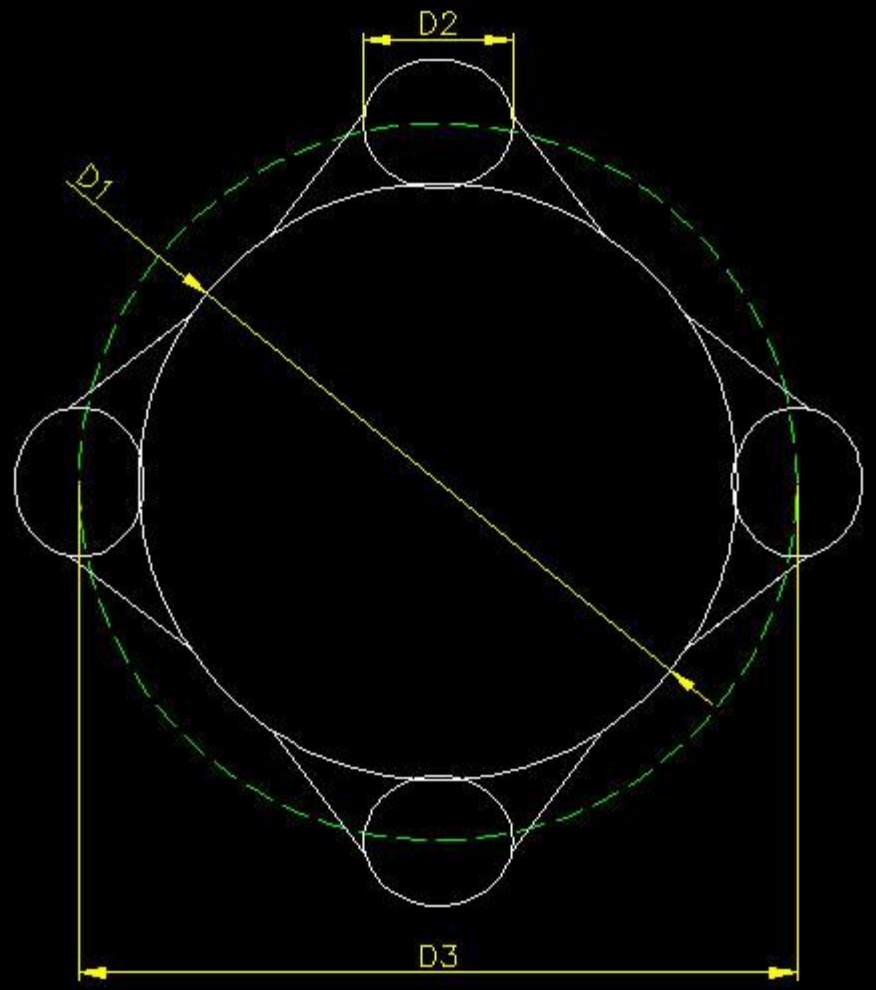



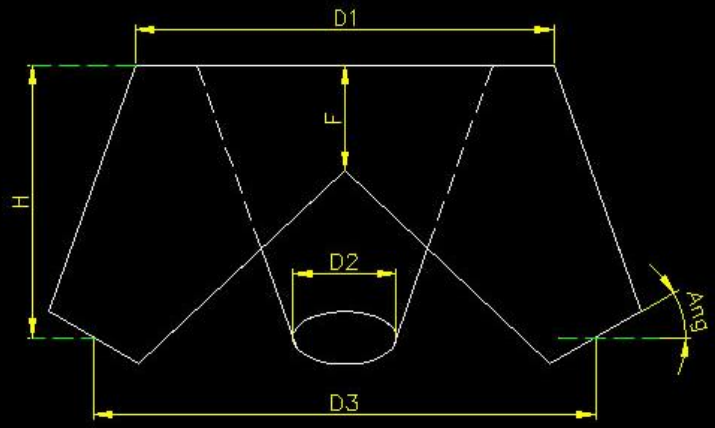



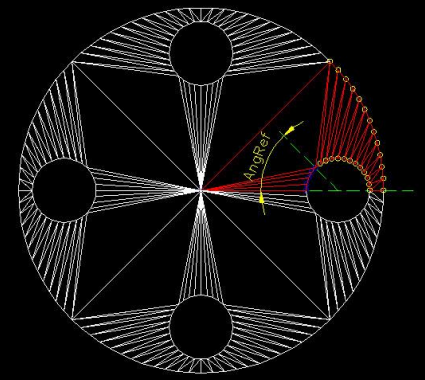


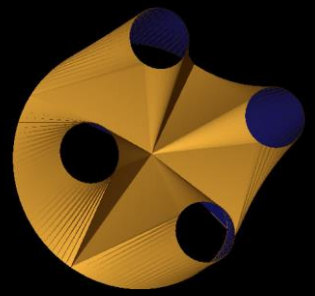
# 065 - Multifurcação Genérica

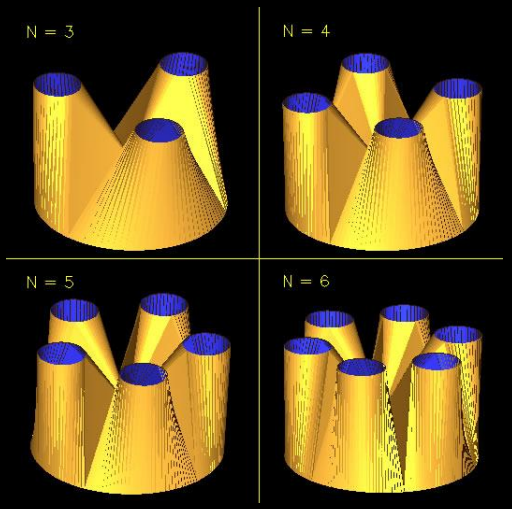
| | |
|---|---|
| H | 600 |
| D1 | 700 |
| D2 | 250 |
| D3 | 600 |
| F | 300 |
| N | 4 |
| Ang | 15 |
| AngRef | 10 |
| Ndiv | 32 ... |
| Qtd | 1 |
| Calcular 3D | Sim ▼ |
| e | 10 (Aço) ... |



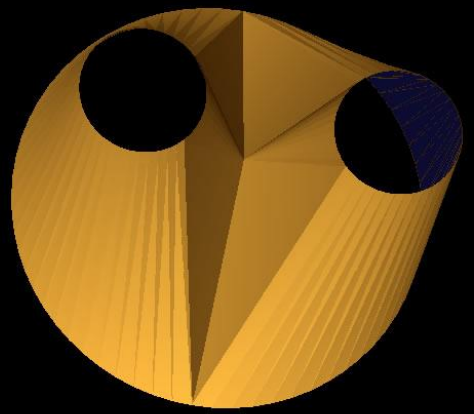



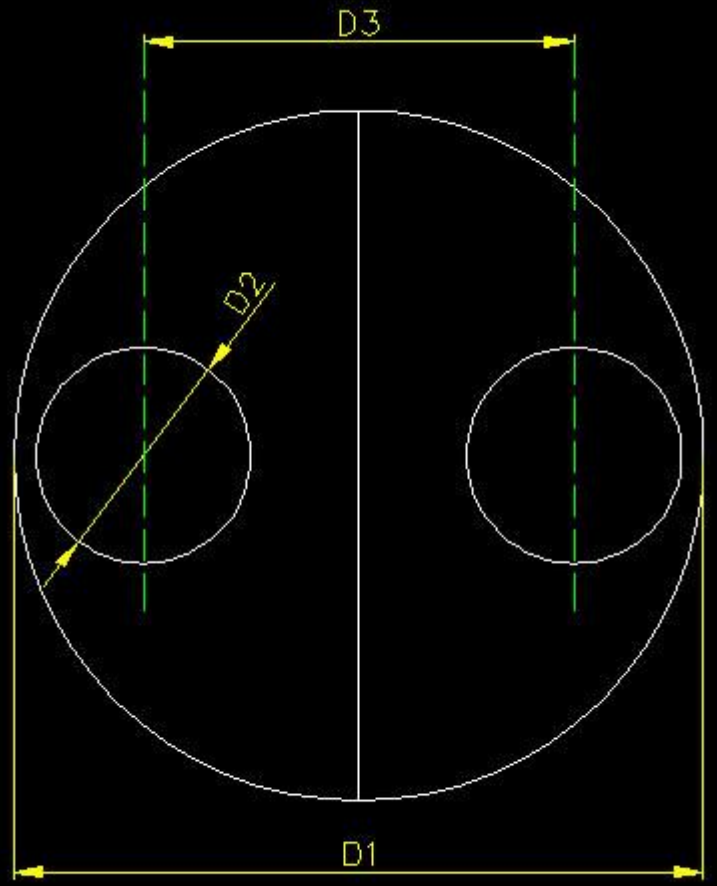



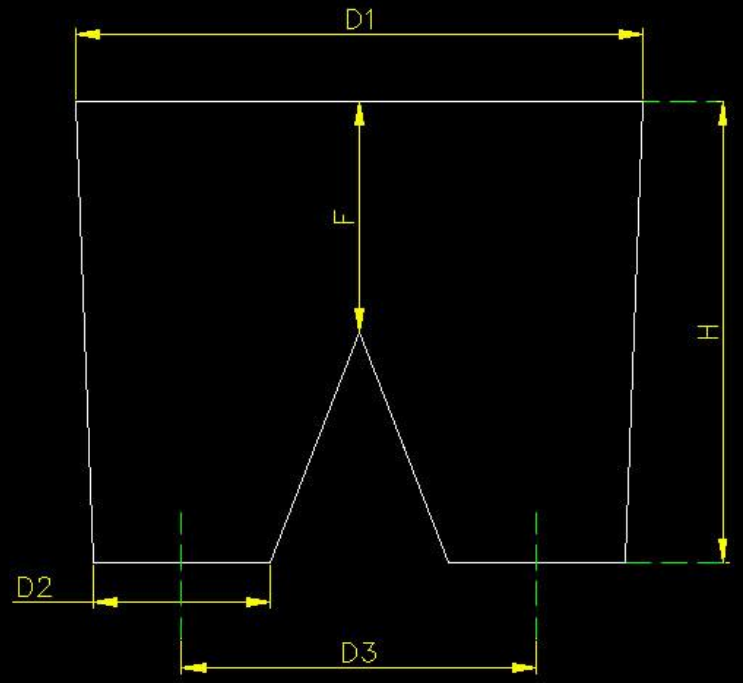


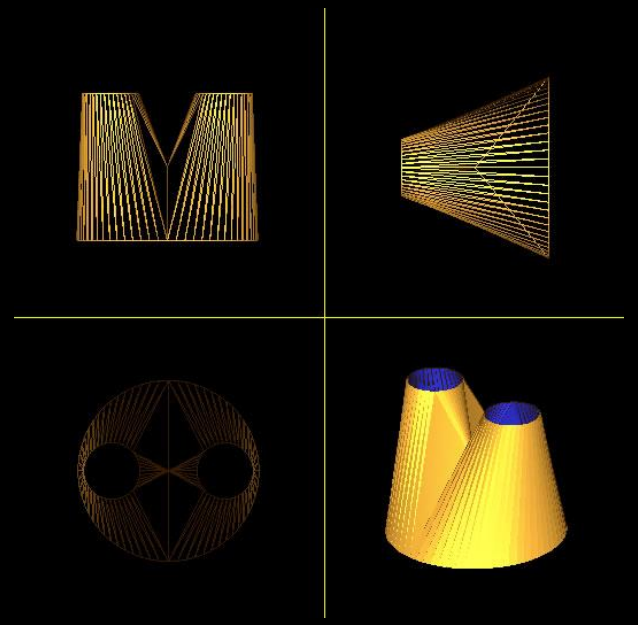
# 066 - Multifurcação Dupla ☆

| | |
|---|---|
| H | 400 |
| D1 | 500 |
| D2 | 150 |
| D3 | 300 |
| F | 250 |
| Ndiv | 32 ... |
| Qtd | 1 |
| Calcular 3D | Sim ▼ |
| e | 10 (Aço) ... |



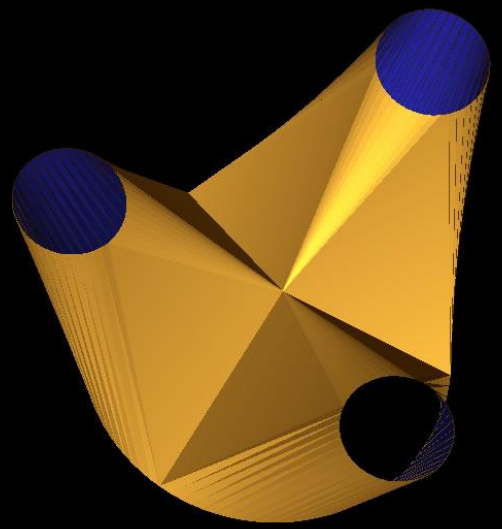


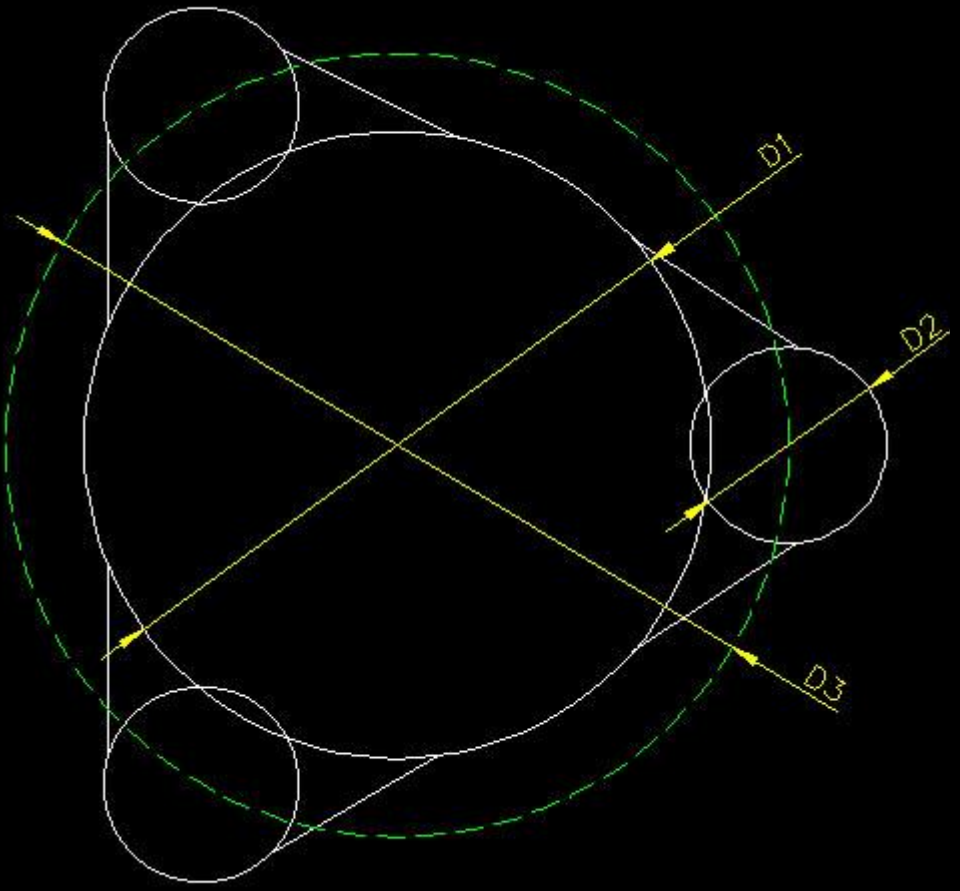



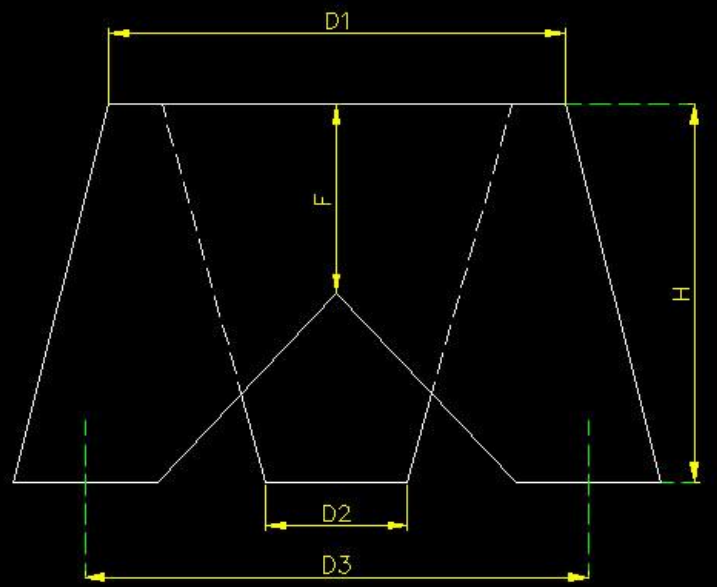



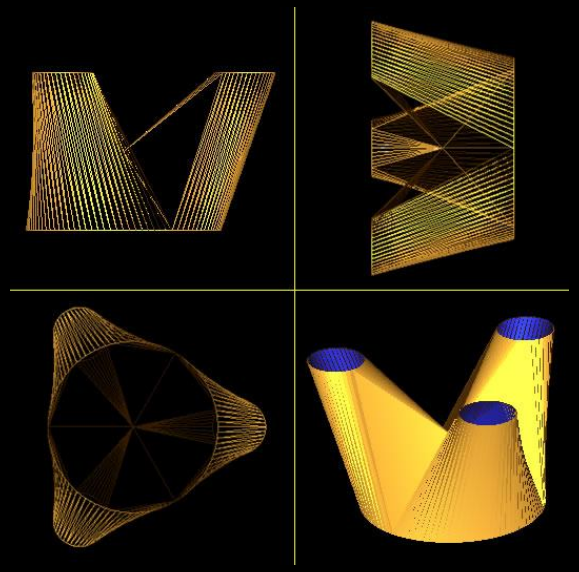
# 067 - Multifurcação Tripla ☆

| | |
|---|---|
| H | 600 |
| D1 | 500 |
| D2 | 200 |
| D3 | 650 |
| F | 300 |
| Ndiv | 32 ... |
| Qtd | 1 |
| Calcular 3D | Sim ▼ |
| e | 6 (Aço) ... |



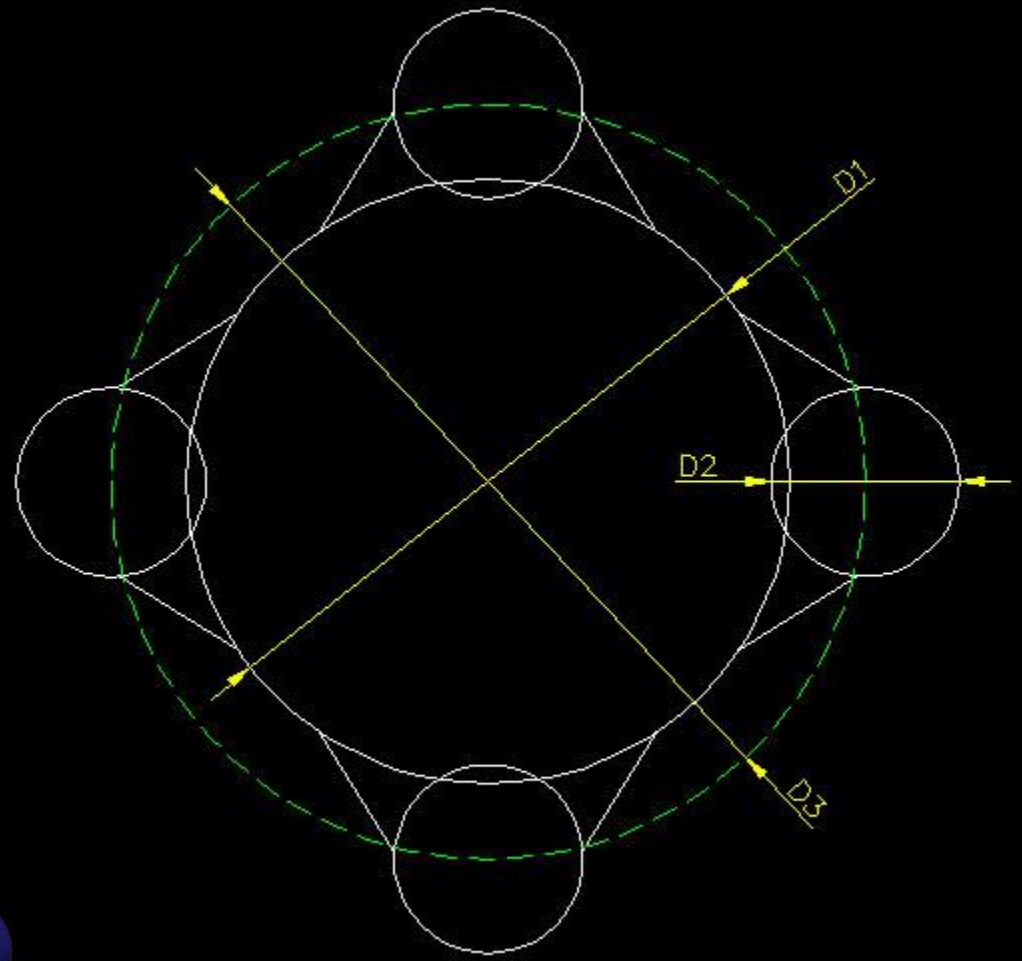


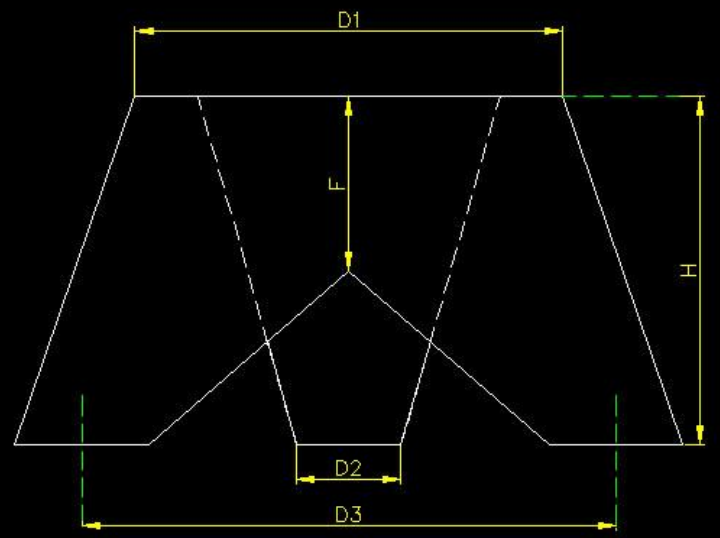



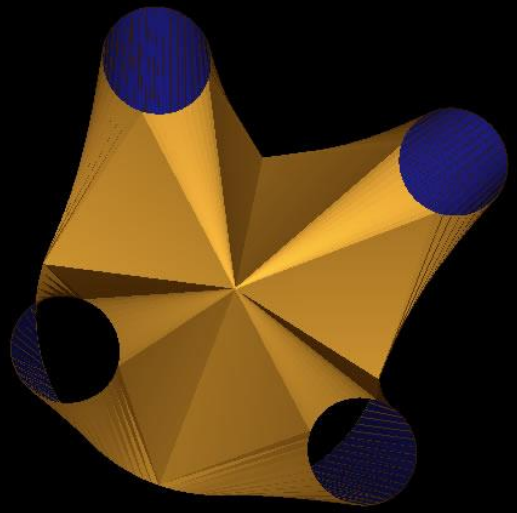



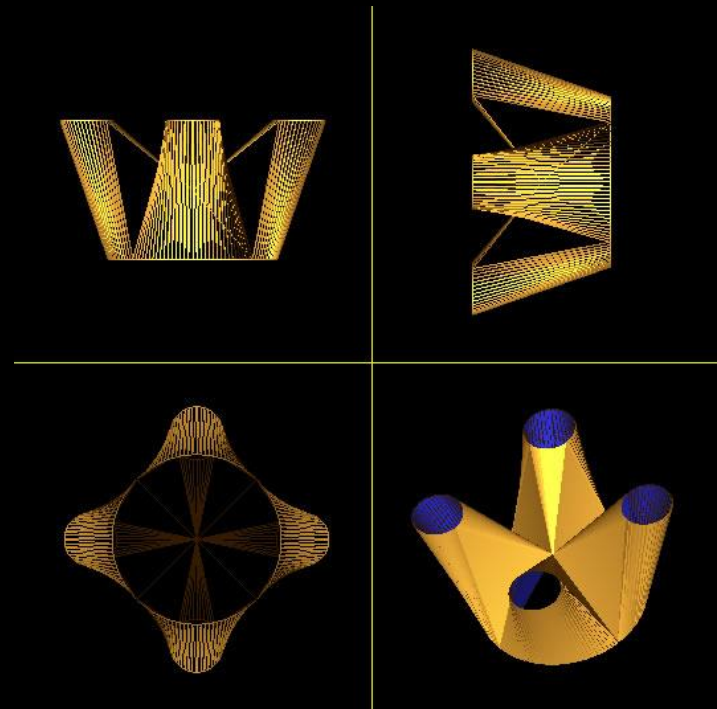
# 068 - Multifurcação Quádrupla

| | |
|---|---|
| H | 500 |
| D1 | 450 |
| D2 | 200 |
| D3 | 650 |
| F | 200 |
| Ndiv | 32 ... |
| Qtd | 1 |
| Calcular 3D | Sim |
| e | 6 (Aço) ... |



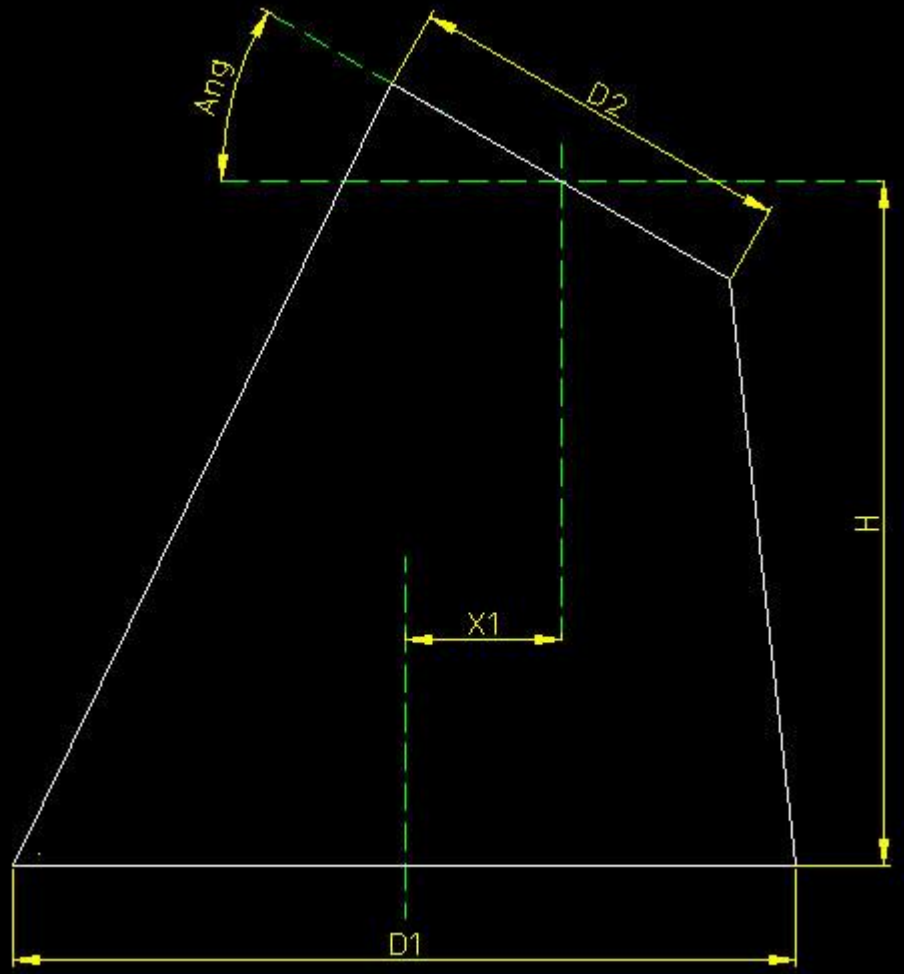



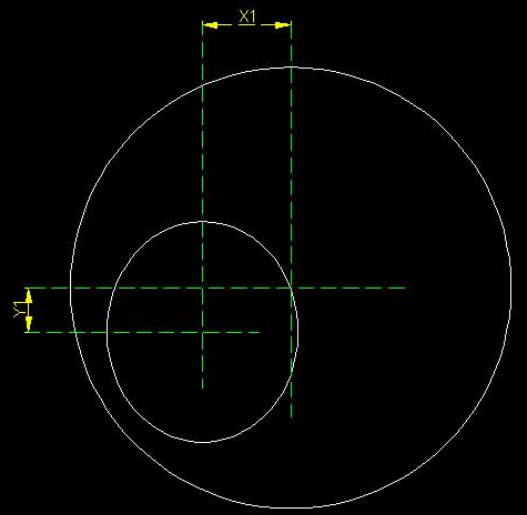



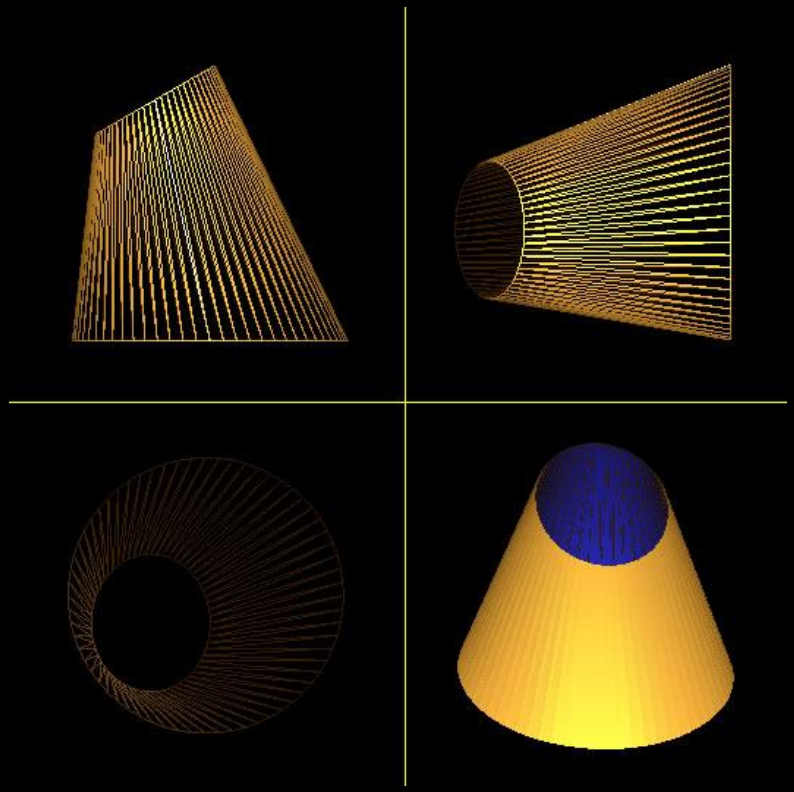


# 070 - Tronco de Cone Excêntrico

| | |
|---|---|
| D1 | 1000 |
| D2 | 500 |
| H | 875 |
| X1 | 200 |
| Y1 | 100 |
| Ang | 30 |
| N div | 32 ... |
| Qtd | 1 |
| Calcular 3D | Sim ▼ |
| e | 12,7 (Aço) ... |

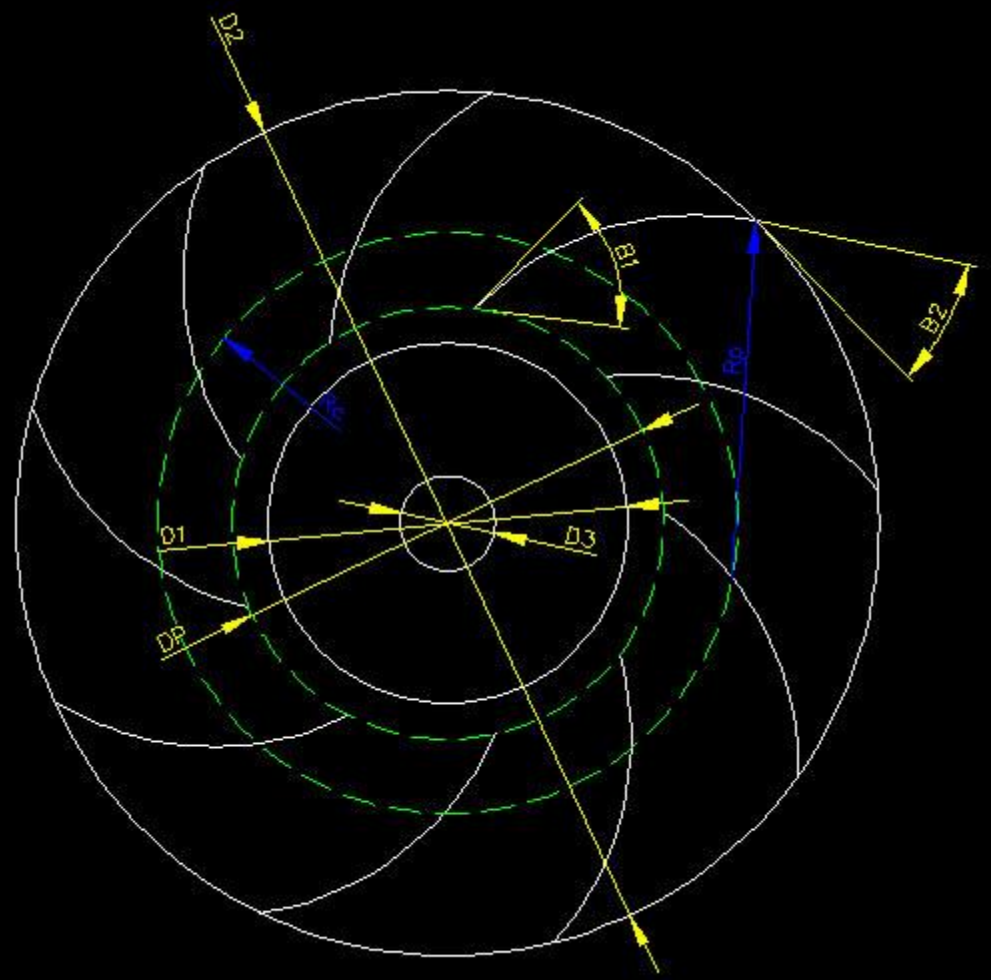


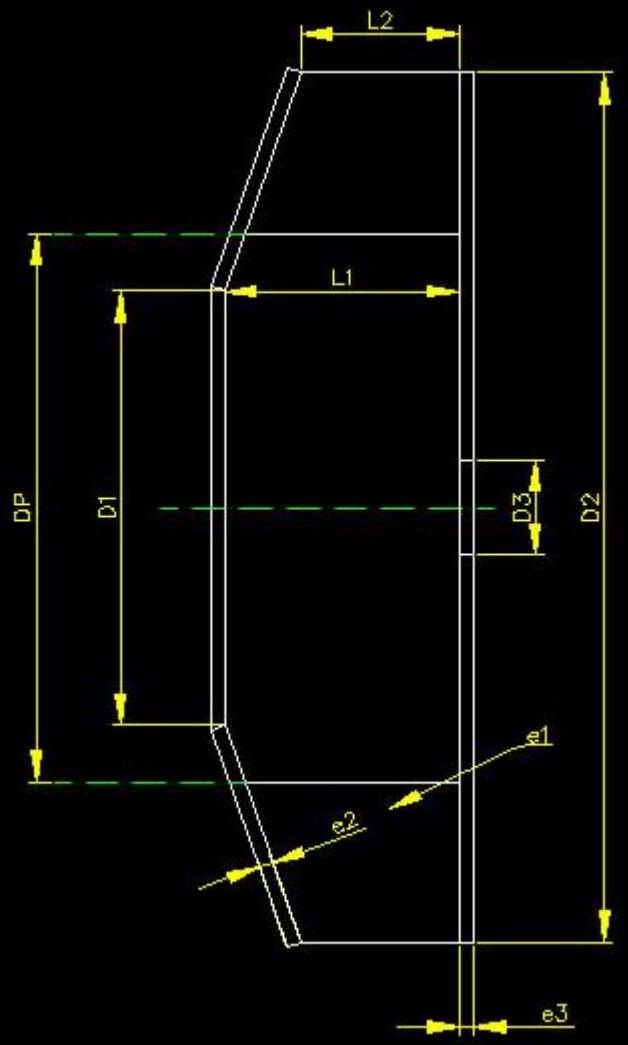



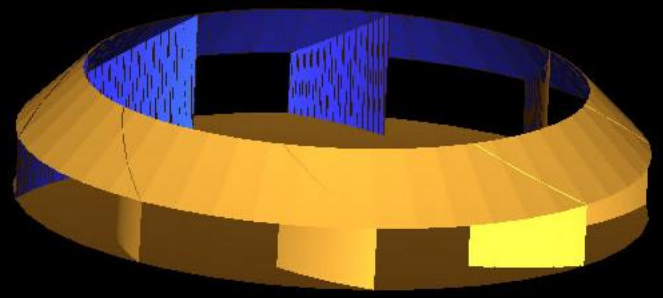



# 071 - Rotor Centrífugo ☆

| | |
|---|---|
| D1 | 400 |
| D2 | 500 |
| D3 | 50 |
| DP | 400 |
| B1 | 35 |
| B2 | 30 |
| L1 | 200 |
| L2 | 100 |
| N | 8 |
| Qtd | 1 |
| Calcular 3D | Sim ▼ |
| e1 | 10 (Aço) ... |
| e2 | 10 (Aço) ... |
| e3 | 10 (Aço) ... |

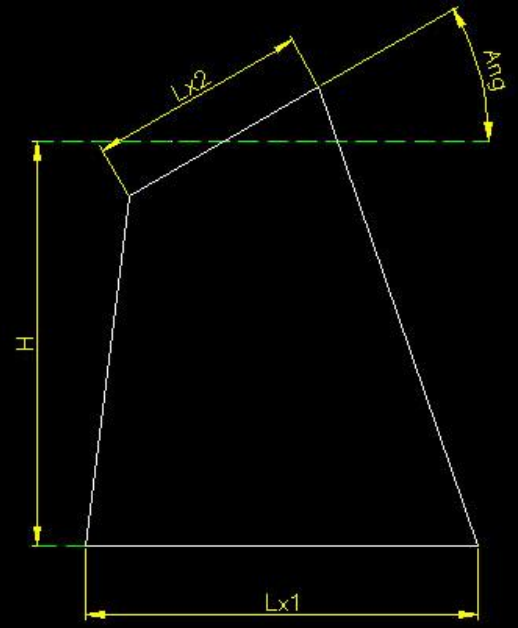


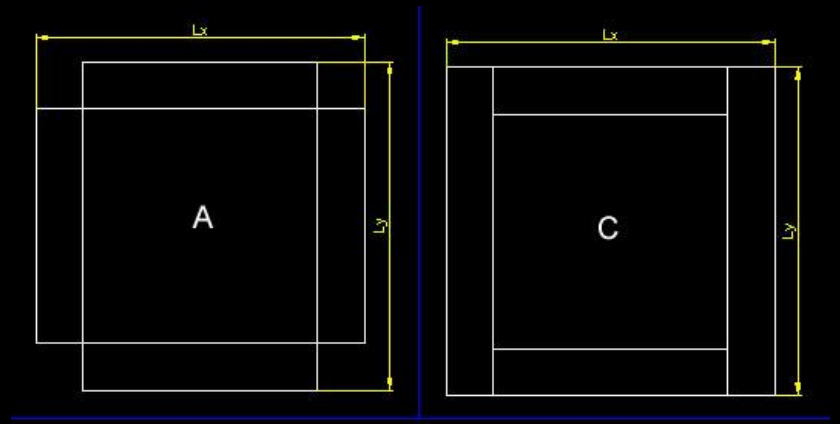



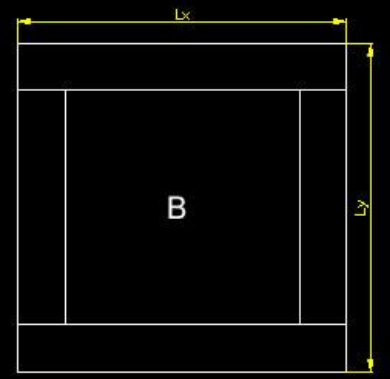



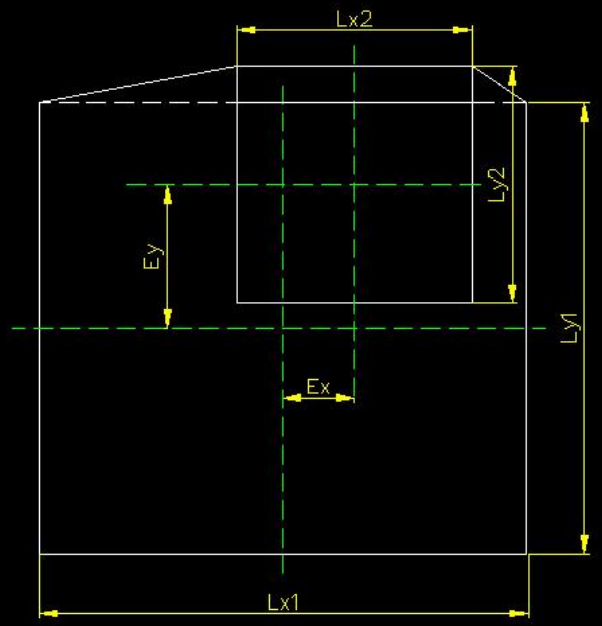
# 072 - Tronco de Pirâmide ☆

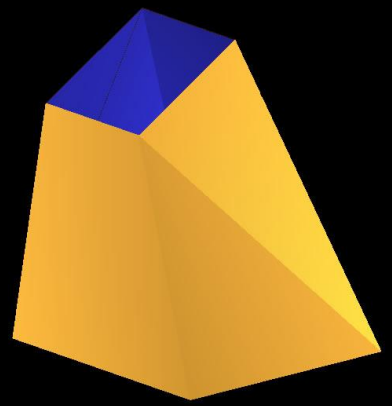
| | |
|---|---|
| **Lx1** | 700 |
| **Ly1** | 700 |
| **Lx2** | 400 |
| **Ly2** | 300 |
| **H** | 600 |
| **Ang** | 15 |
| **Ex** | 150 |
| **Ey** | 150 |
| **Qtd** | 1 |
| **Tipo** | A ▼ |
| **Calcular 3D** | Sim ▼ |
| **e** | 6 (Aço) ... |



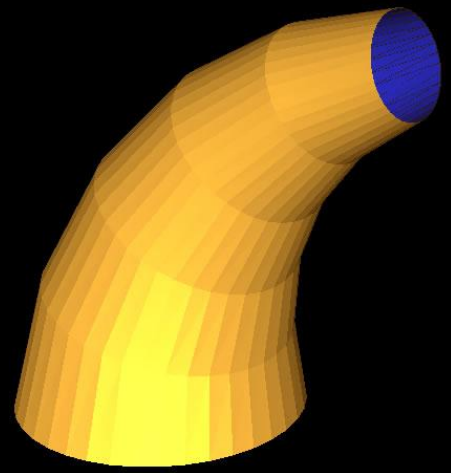



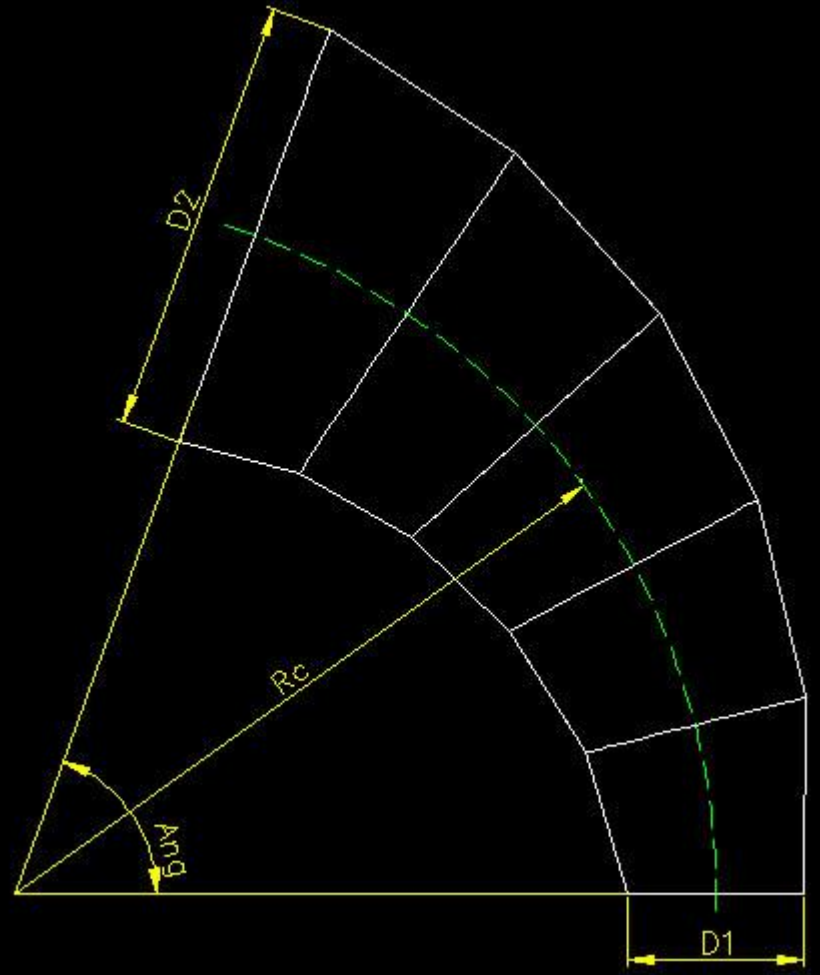



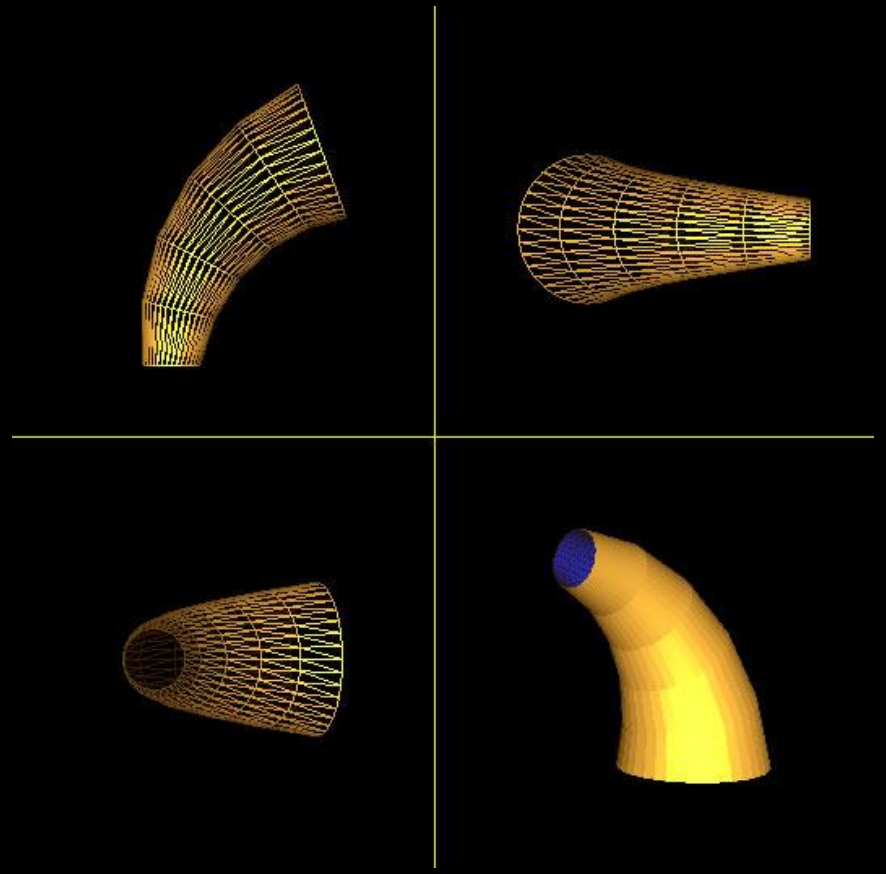



# 073 - Curva com Redução ☆

| | |
|---|---|
| D1 | 400 |
| D2 | 1000 |
| Ang | 90 |
| Rc | 1600 |
| Ng | 5 |
| N div | 32 ... |
| Qtd | 1 |
| Calcular 3D | Sim ▼ |
| e | 12,7 (Aço) ... |

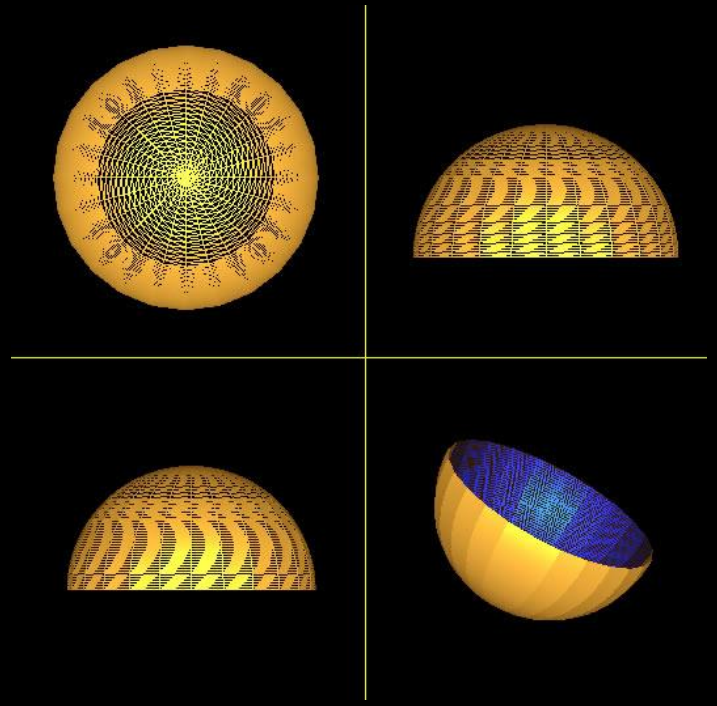


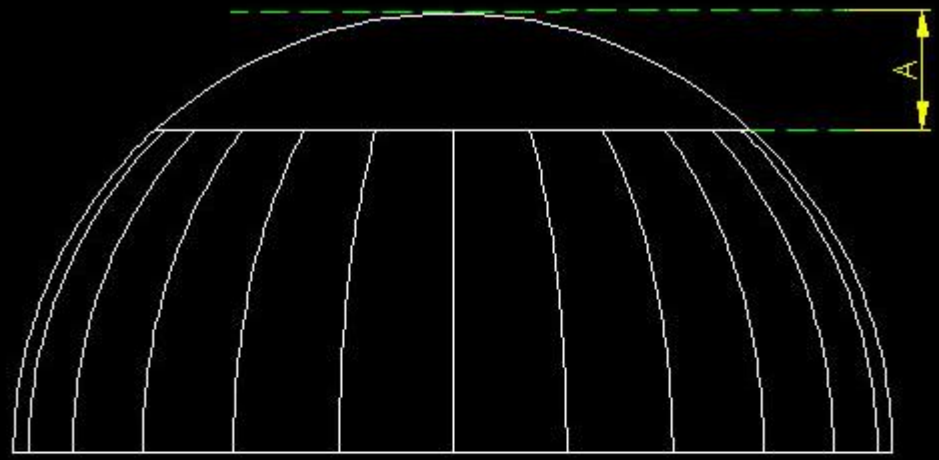


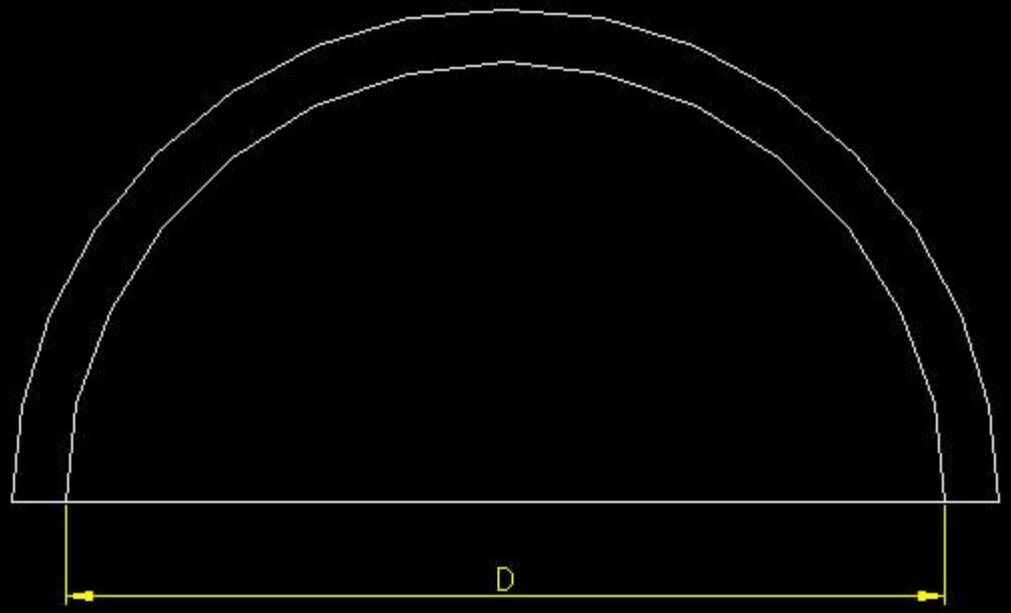



# 074 - Esfera ☆

| | |
|---|---|
| D | 3000 |
| A | 400 |
| Ng | 12 |
| N div | 16 |
| Qtd | 1 |
| Calcular 3D | Sim |
| e | 12,7 (Aço) ... |

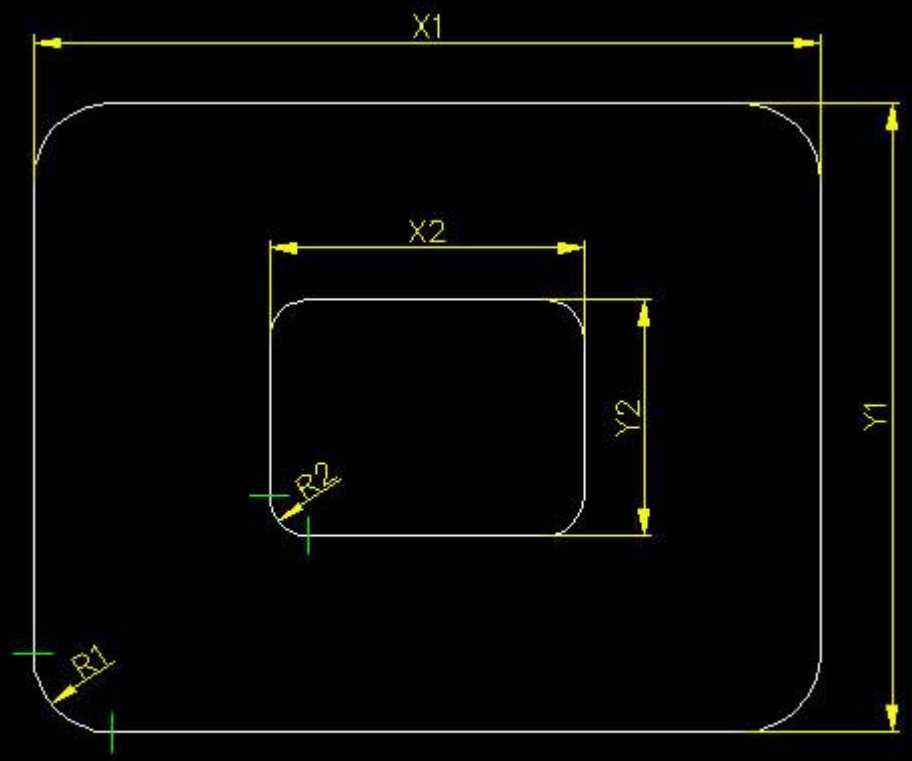


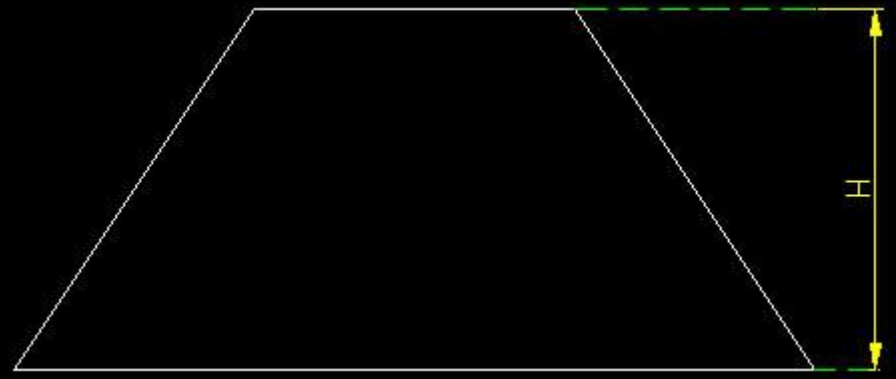


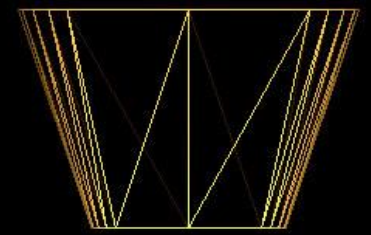



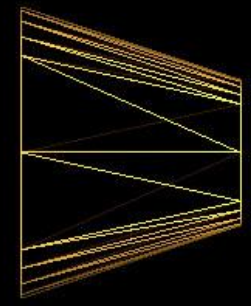
# 076 - Transição Ret/Ret Cantos Arredondados

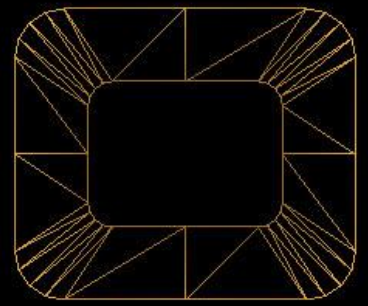
| | |
|---|---|
| X1 | 1000 |
| X2 | 400 |
| Y1 | 800 |
| Y2 | 300 |
| R1 | 100 |
| R2 | 50 |
| H | 450 |
| N div | 16 ... |
| Qtd | 1 |
| Calcular 3D | Sim |
| e | 12,7 (Aço) ... |

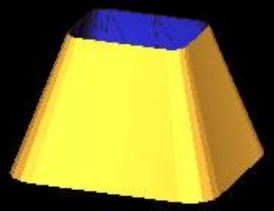


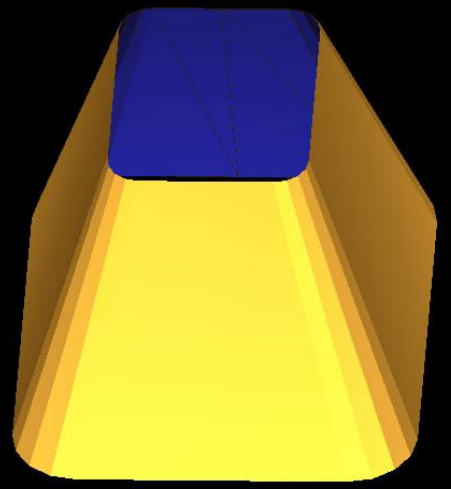





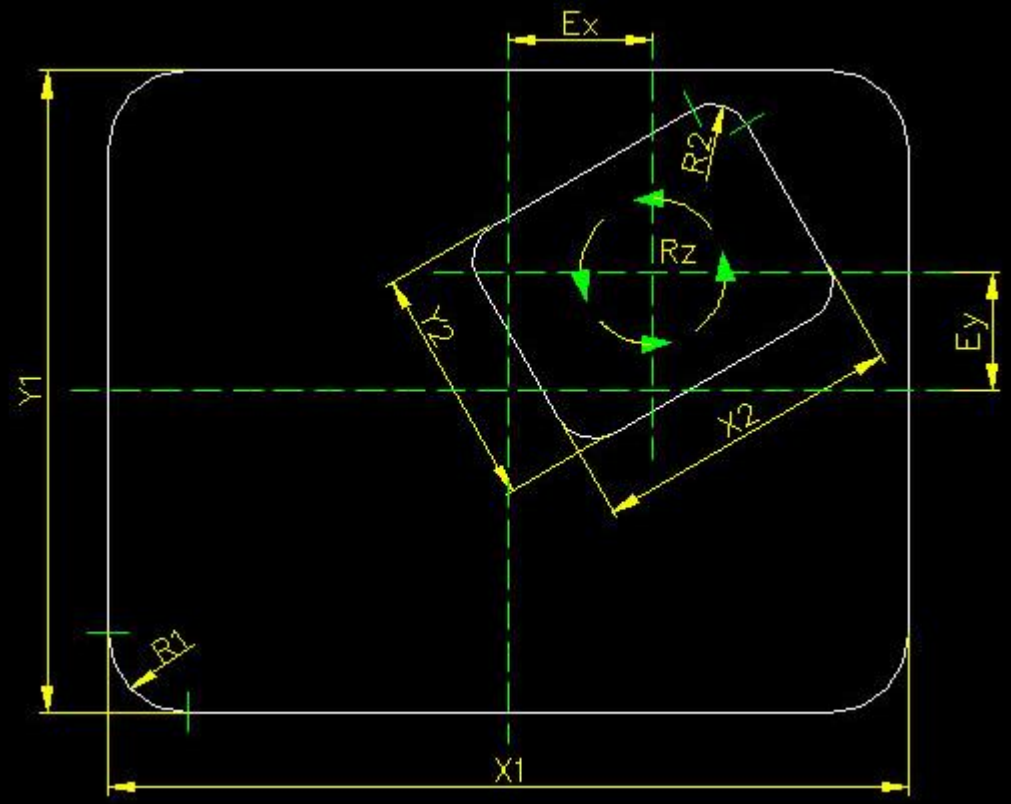


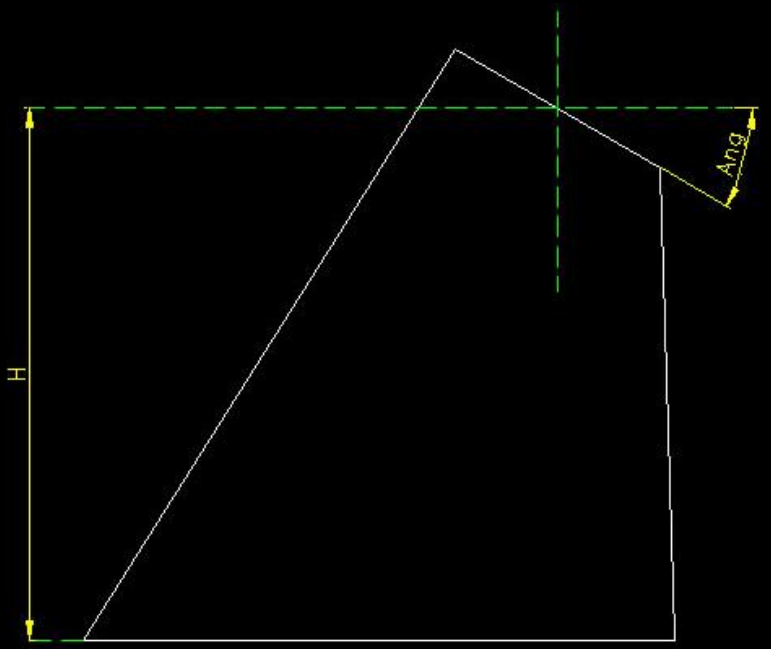


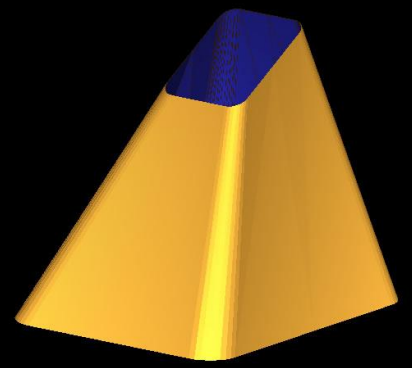


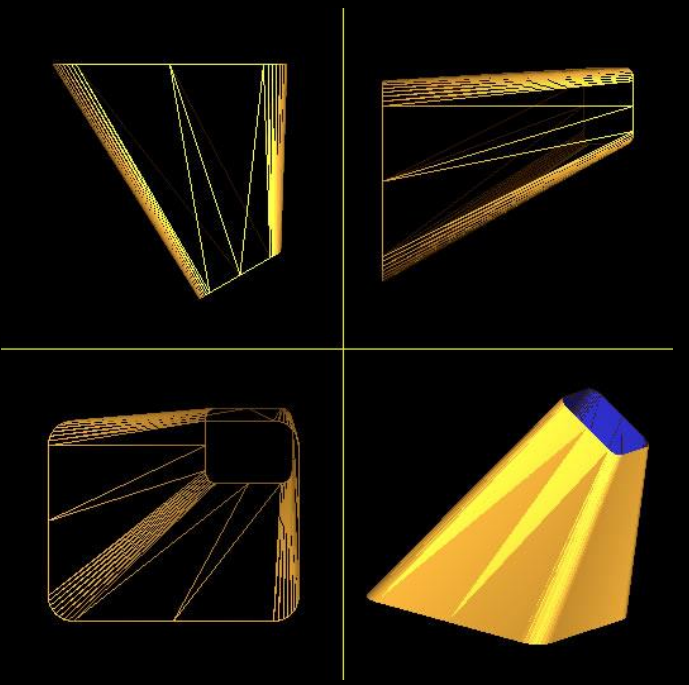
# 077 - Transição Ret/Ret Cantos Arredondados Inclinada

| | |
|---|---|
| X1 | 1000 |
| X2 | 400 |
| Y1 | 600 |
| Y2 | 300 |
| R1 | 100 |
| R2 | 50 |
| H | 500 |
| Ex | 200 |
| Ey | 100 |
| Rz | 0 |
| Ang | 20 |
| N div | 16 ... |
| Qtd | 1 |
| Calcular 3D | Sim |
| e | 12,7 (Aço) ... |



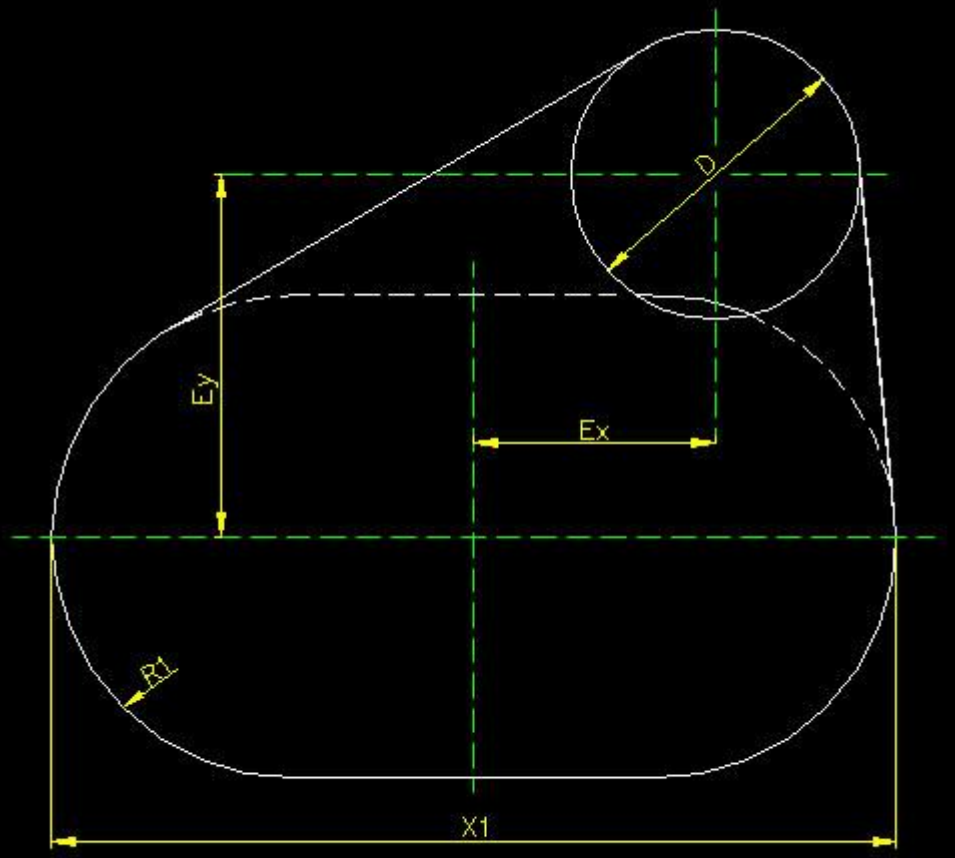



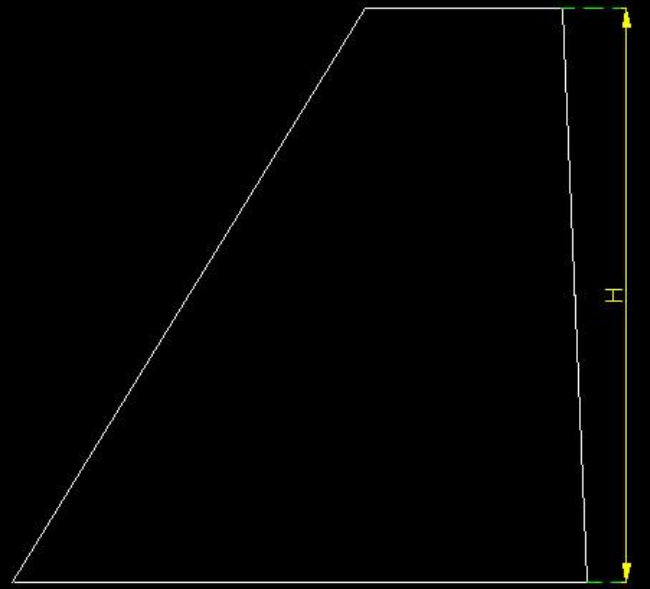



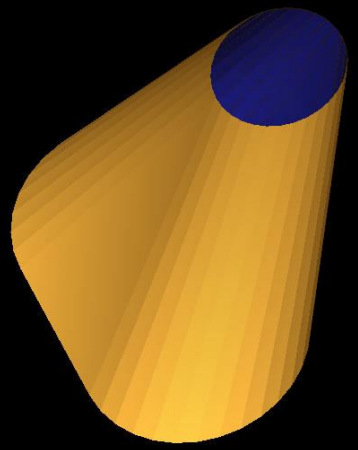


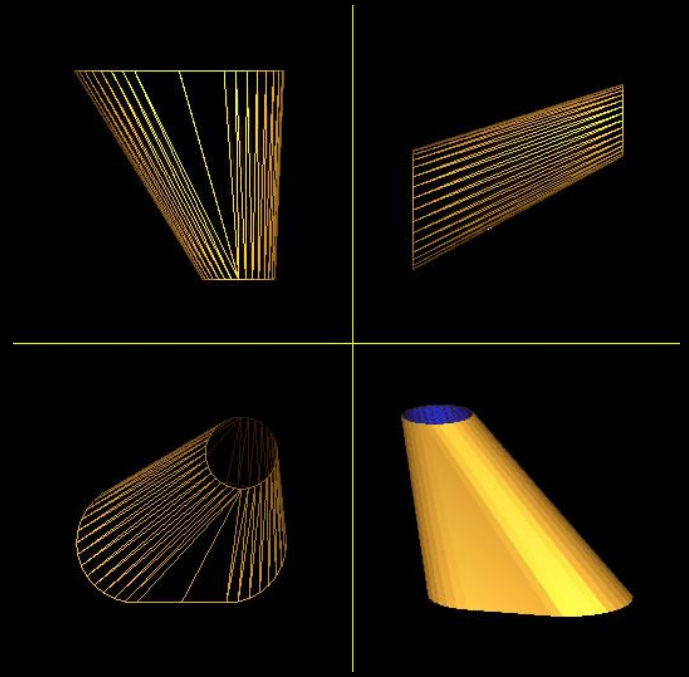
# 078 - Transição Oval Redondo

| | |
|---|---|
| R1 | 200 |
| D | 300 |
| H | 800 |
| Ex | 150 |
| Ey | 0 |
| X1 | 1000 |
| N div | 16 ... |
| Qtd | 1 |
| Calcular 3D | Sim |
| e | 12,7 (Aço) ... |



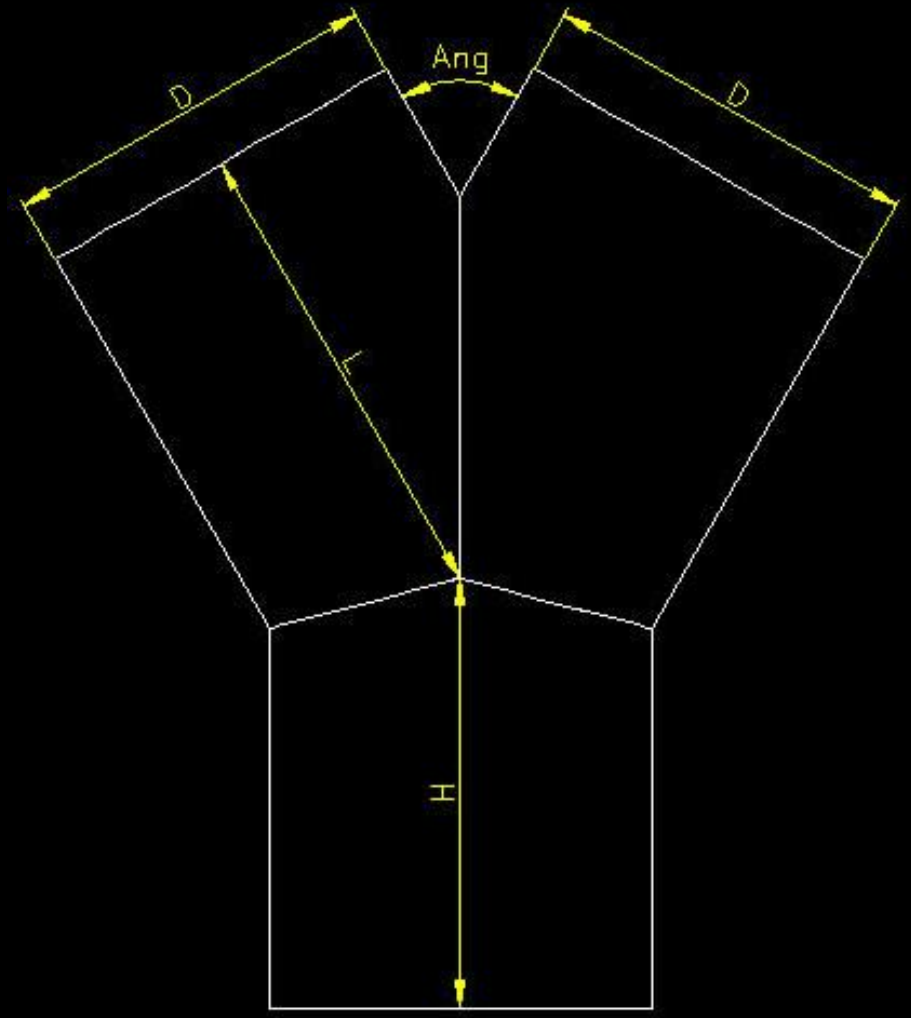



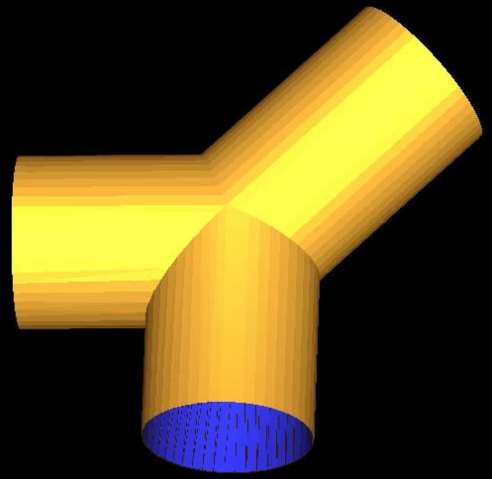



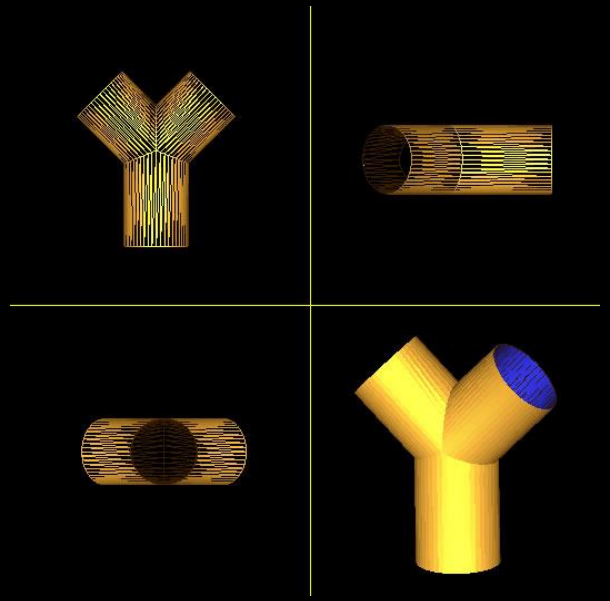


# 080 - Bifurcação Cilindro Cilindro

| | |
|---|---|
| **D** | 800 |
| **H** | 1200 |
| **L** | 1000 |
| **Ang** | 60 |
| **Ndiv** | 32 ... |
| **Qtd** | 1 |
| **Calcular 3D** | Sim ▼ |
| **e** | 10 (Aço) ... |

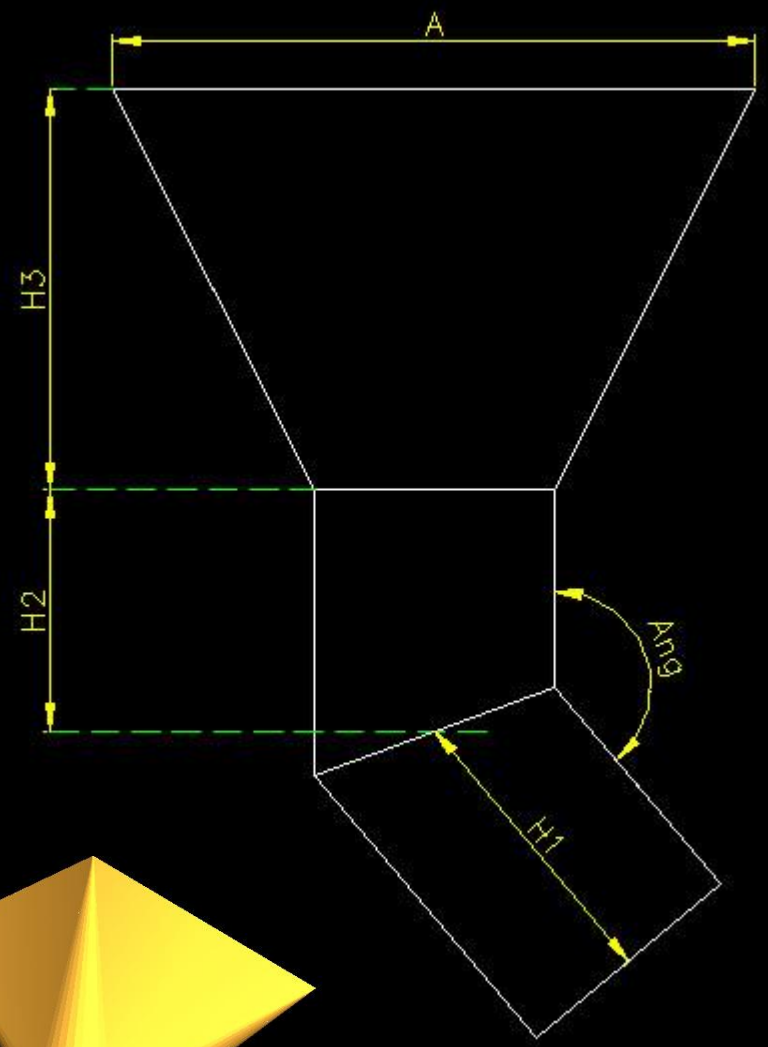


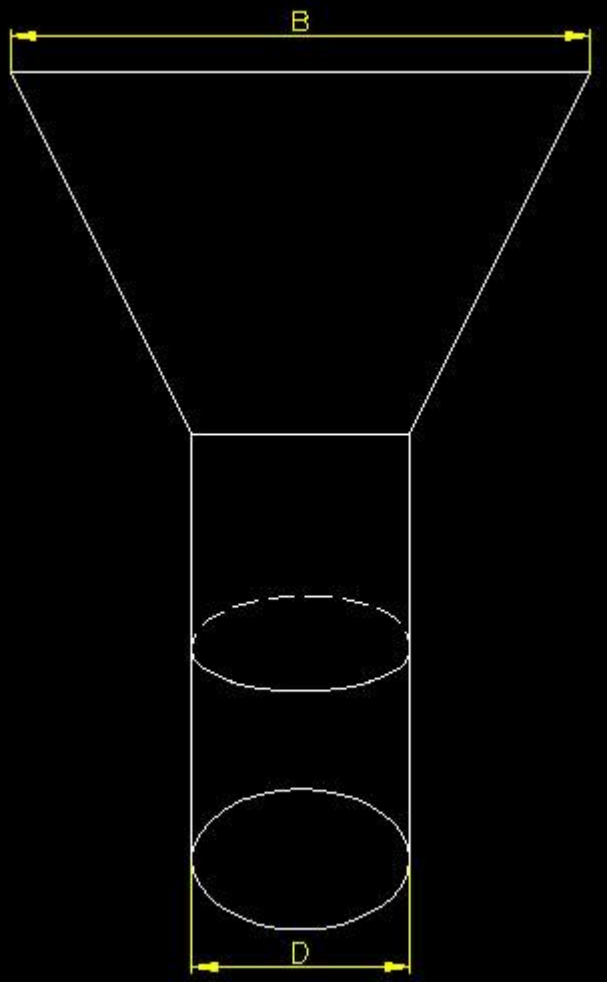



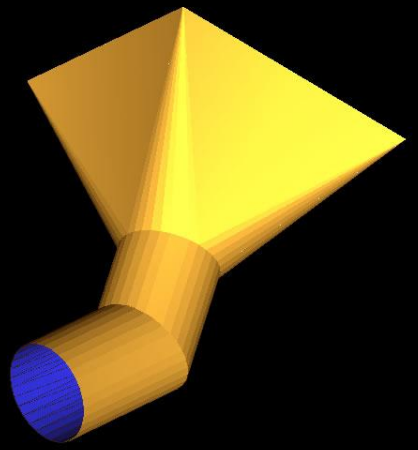


# 082 - Redução Tipo 2 ☆

| | |
|---|---|
| D | 300 |
| A | 800 |
| B | 800 |
| H1 | 600 |
| H2 | 750 |
| H3 | 750 |
| Ang | 140 |
| N div | 16 ... |
| Qtd | 1 |
| Método | N ▼ |
| Calcular 3D | Sim ▼ |
| e | 12,7 (Aço) ... |

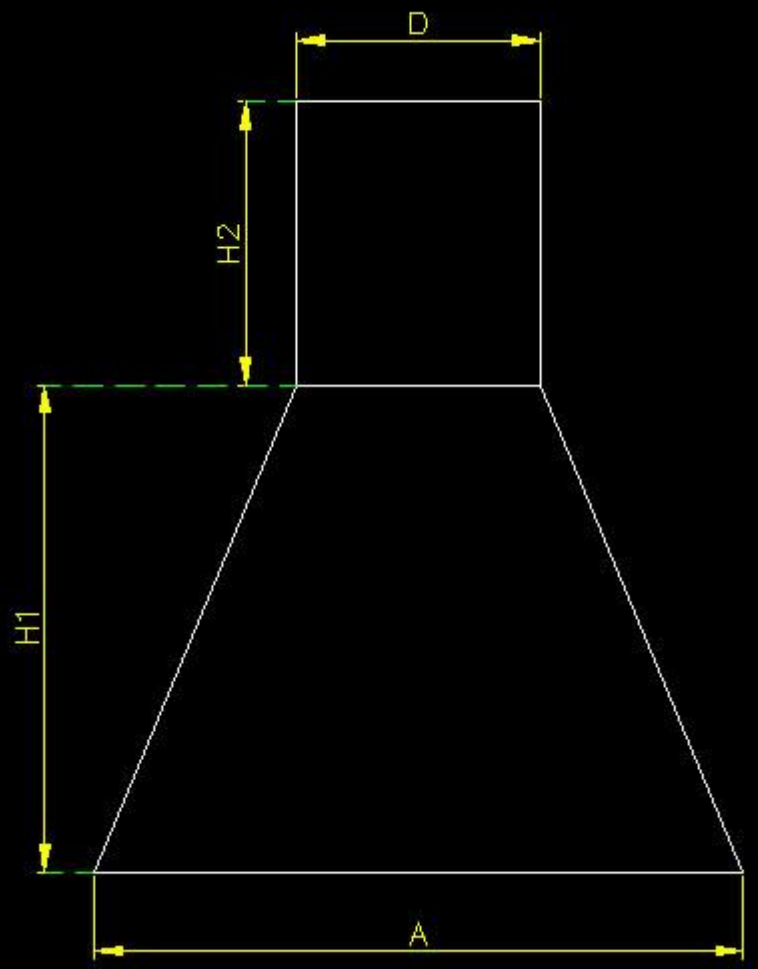


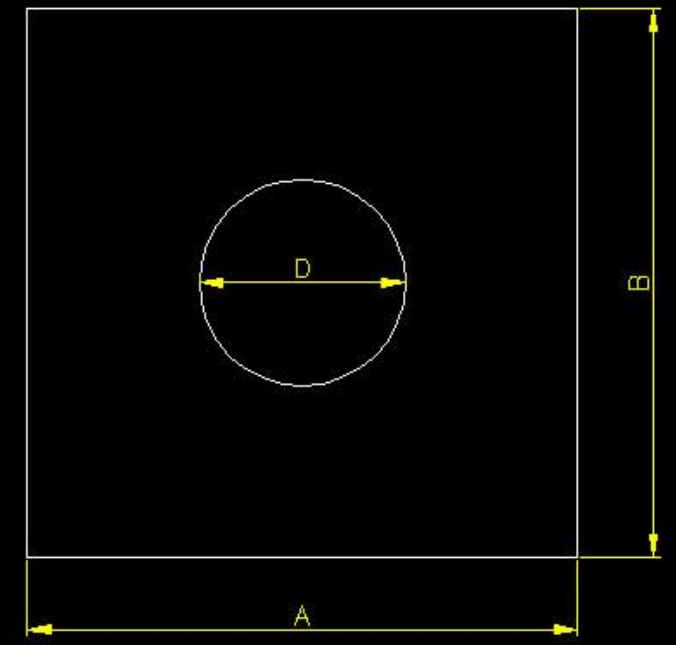



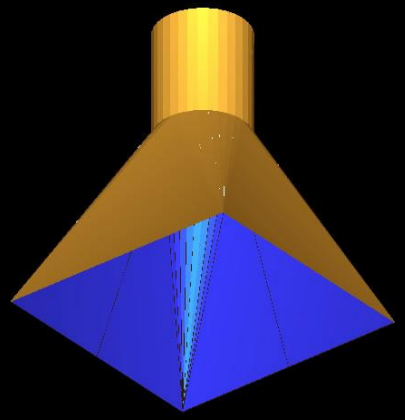



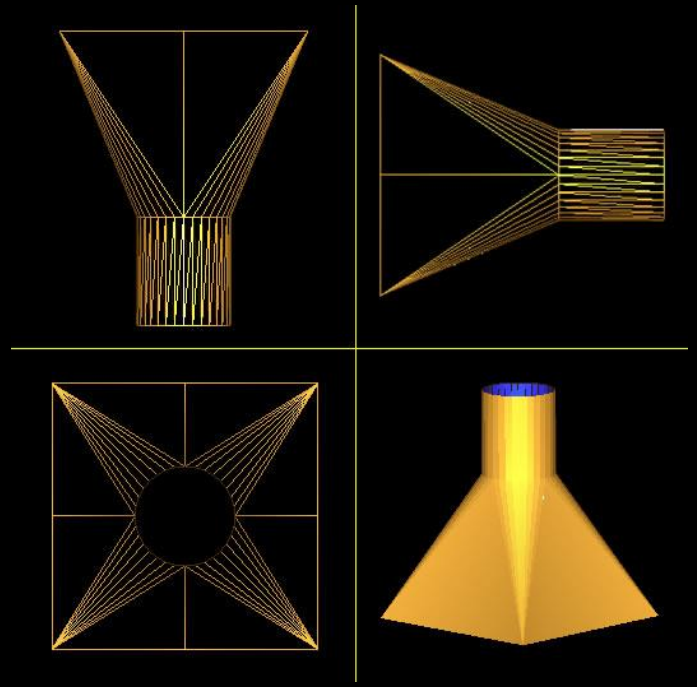
# 083 - Redução Tipo 1 ☆

| | |
|---|---|
| D | 300 |
| A | 800 |
| B | 800 |
| H1 | 600 |
| H2 | 750 |
| N div | 16 ... |
| Qtd | 1 |
| Método | N |
| Calcular 3D | Sim |
| e | 12,7 (Aço) ... |



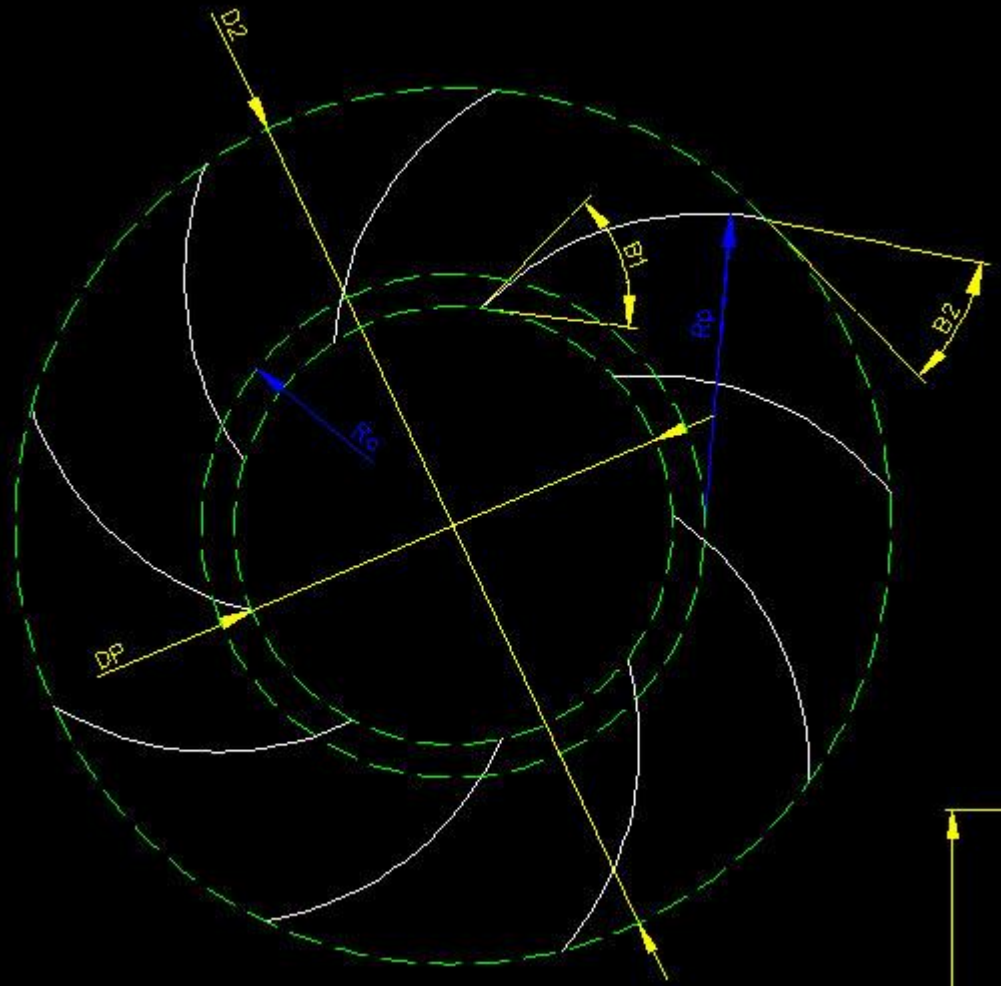



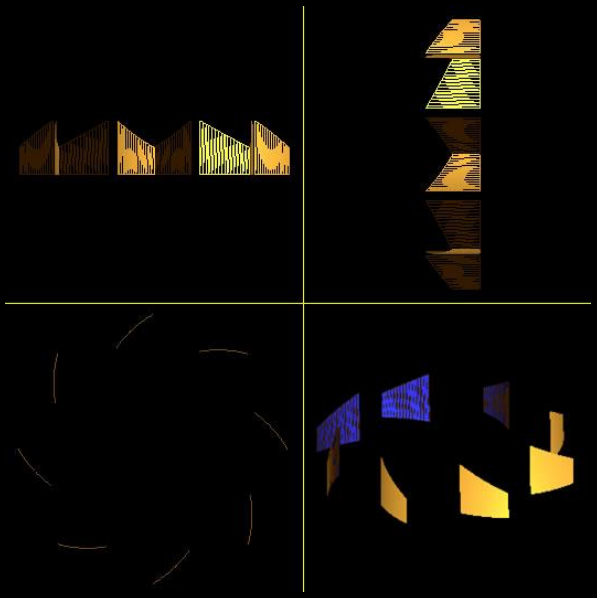



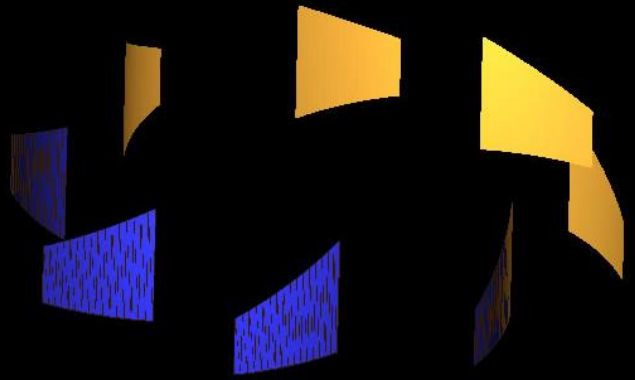


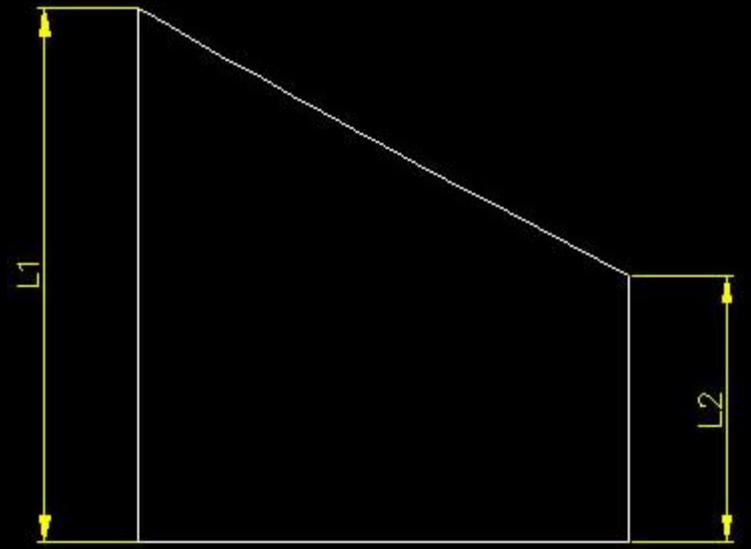
# 084 - Pás de Rotor ☆

| | |
|---|---|
| DP | 400 |
| D2 | 500 |
| B1 | 35 |
| B2 | 30 |
| L1 | 200 |
| L2 | 100 |
| N | 8 |
| Qtd | 1 |
| Calcular 3D | Sim |
| e | 10 (Aço) ... |



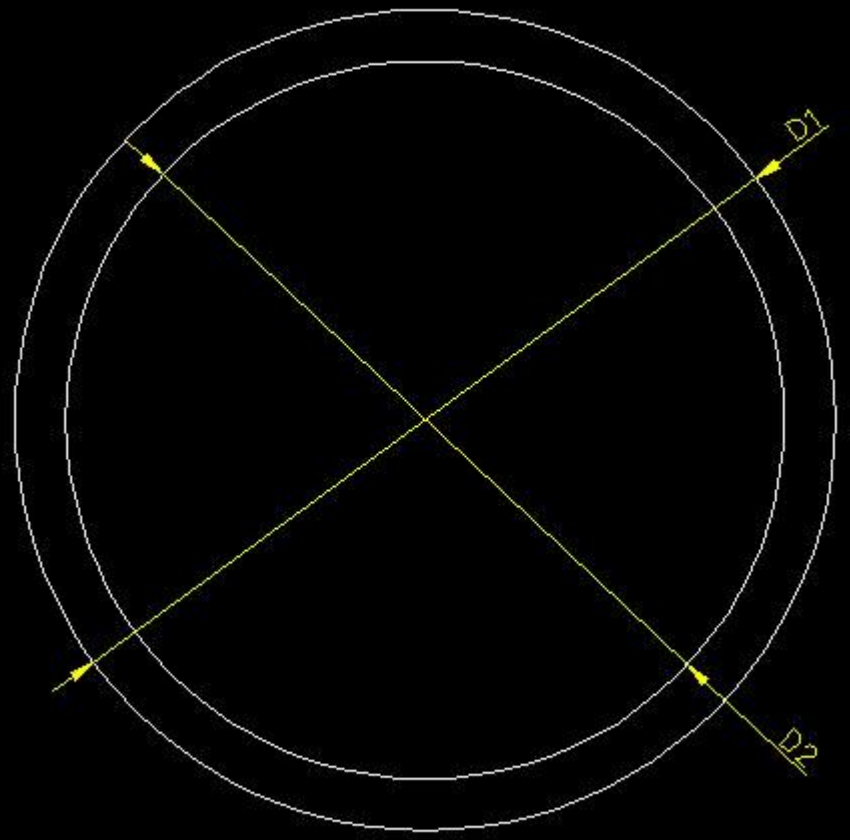







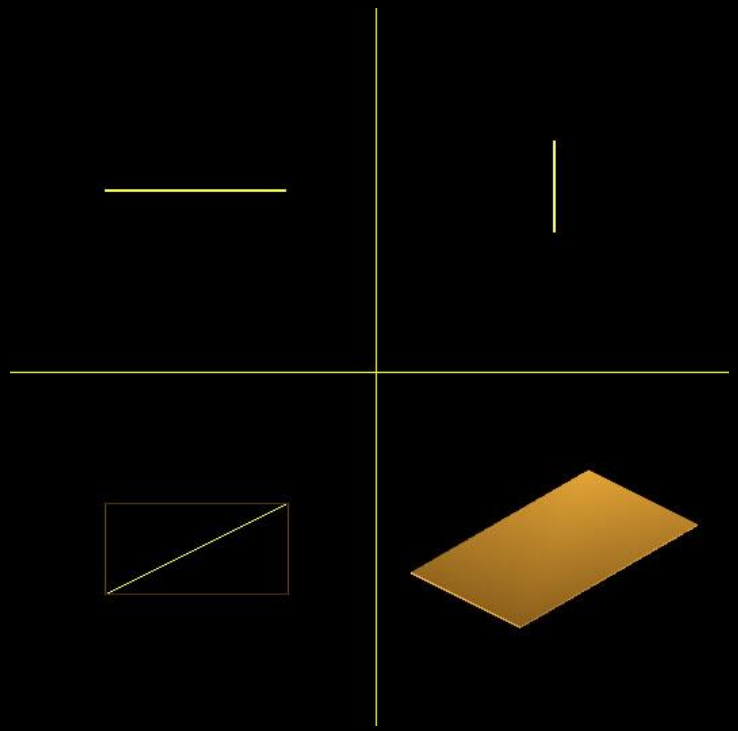
# 086 - Flange Circular ☆

| | |
|---|---|
| **D1** | 500 |
| **D2** | 450 |
| **Qtd** | 1 |
| **Calcular 3D** | Sim ▼ |
| **e** | 10 (Aço) ... |



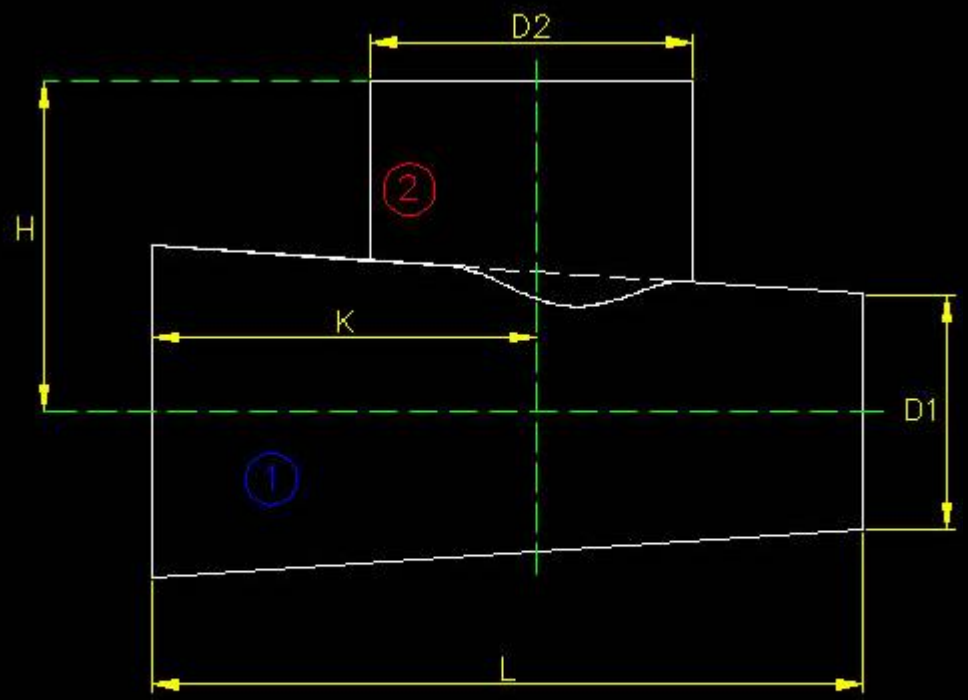
# 087 - Chapa Retangular ☆

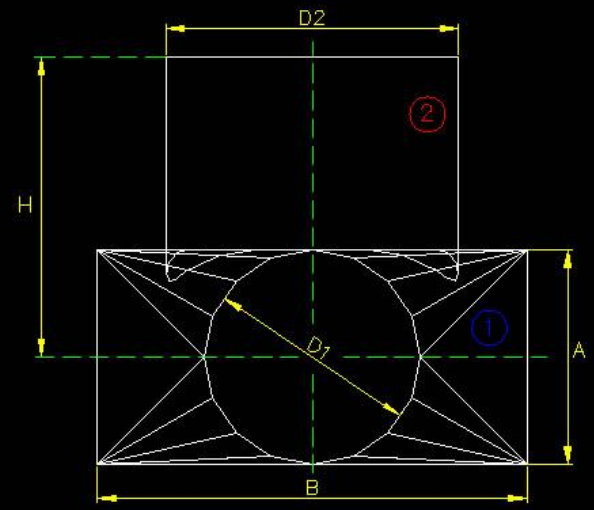
| | |
|---|---|
| **A** | 200 |
| **L** | 600 |
| **Qtd** | 1 |
| **Calcular 3D** | Sim ▼ |
| **e** | 10 (Aço) ... |

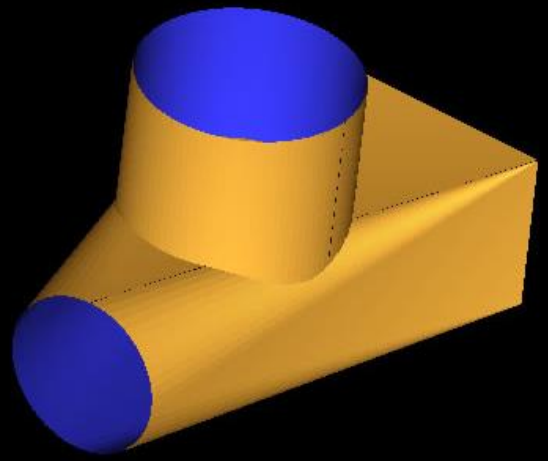


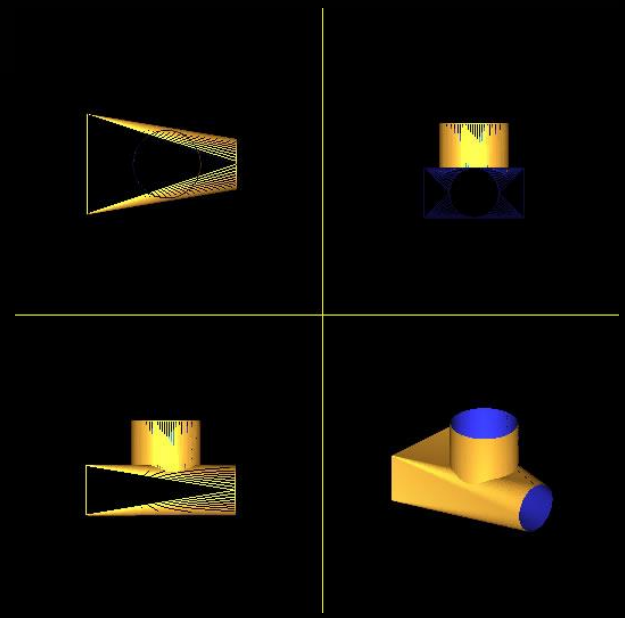
# 102 - Intersecção Cilindro/Transição 90°

| | |
|---|---|
| D1 | 500 |
| D2 | 680 |
| A | 500 |
| B | 1000 |
| L | 1500 |
| H | 700 |
| K | 800 |
| Ndiv1 | 16 ... |
| Ndiv2 | 32 ... |
| Qtd | 1 |
| Calcular | 1+2 ▼ |
| Calcular 3D | Sim ▼ |
| Método | M+M ... |
| e1 | 10 (Aço) ... |
| e2 | 10 (Aço) ... |



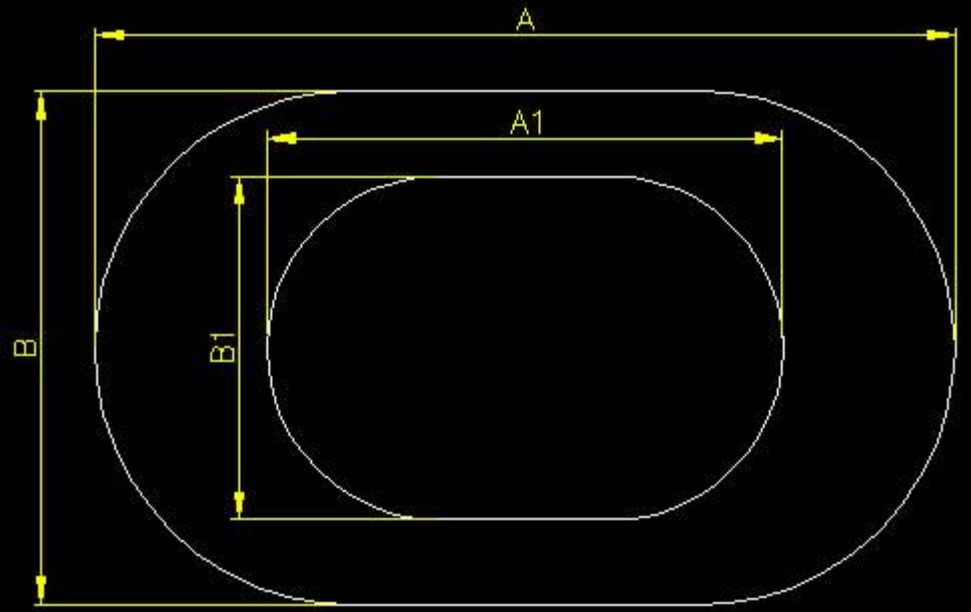



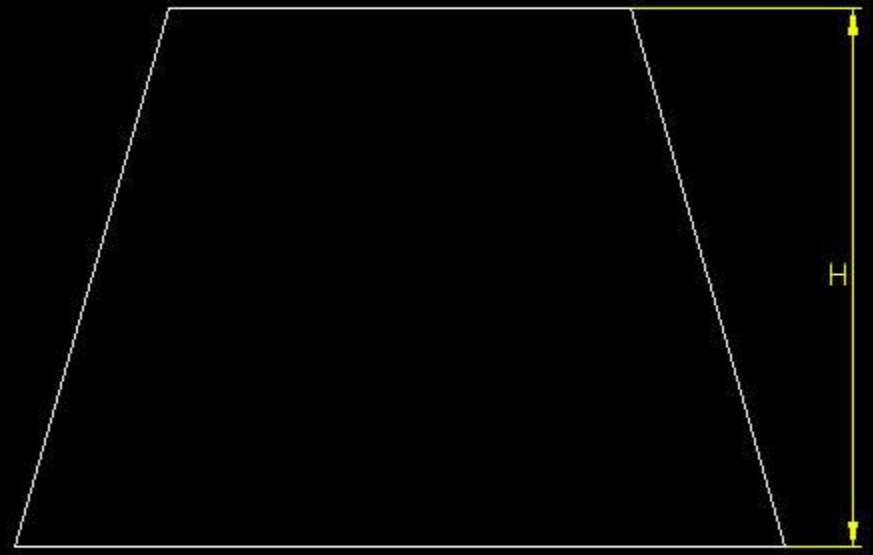



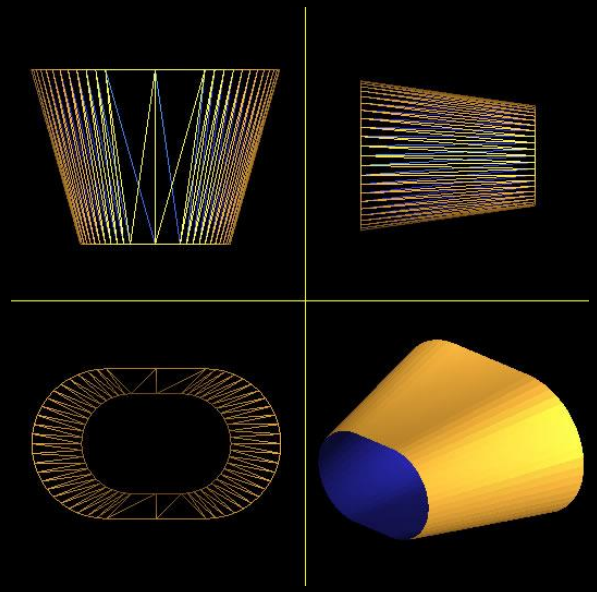


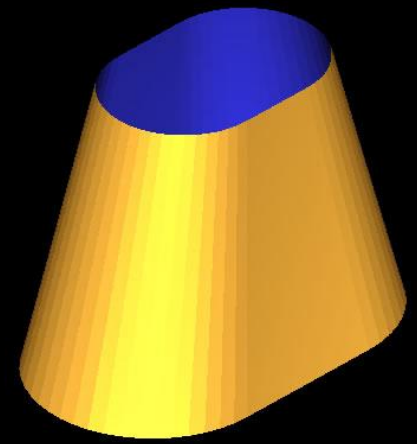
# 107 - Tronco Oval ☆

| | |
|---|---|
| A | 1000 |
| B | 600 |
| A1 | 600 |
| B1 | 400 |
| H | 700 |
| N div | 16 ... |
| Qtd | 1 |
| Calcular 3D | Sim ▼ |
| e | 5 (Aço) ... |



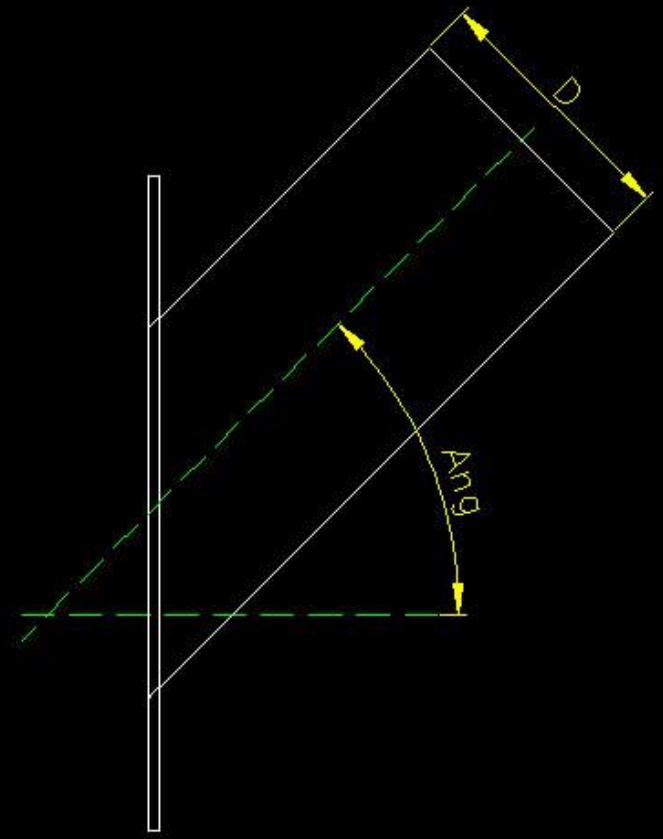



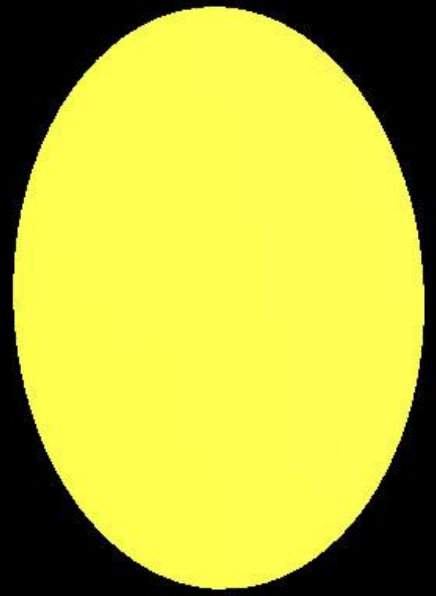





# 130 - Elipse ☆

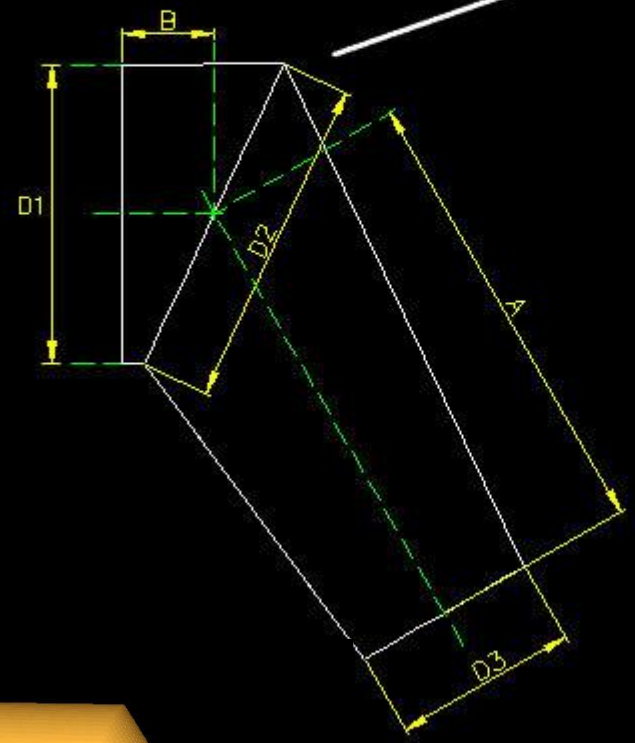
| | |
|---|---|
| **D** | 200 |
| **Ang** | 45 |
| **Ndiv** | 16 ... |
| **Qtd** | 1 |
| **Calcular 3D** | Sim ▼ |
| **e** | 10 (Aço) ... |

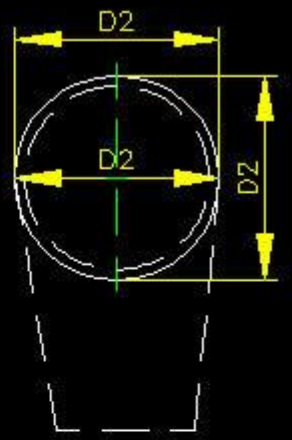


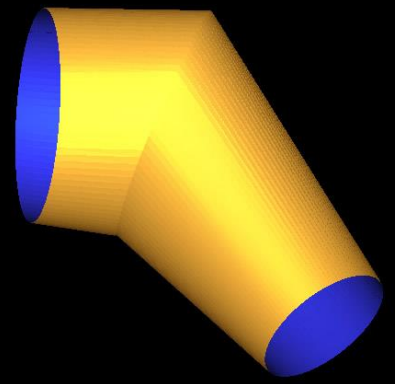



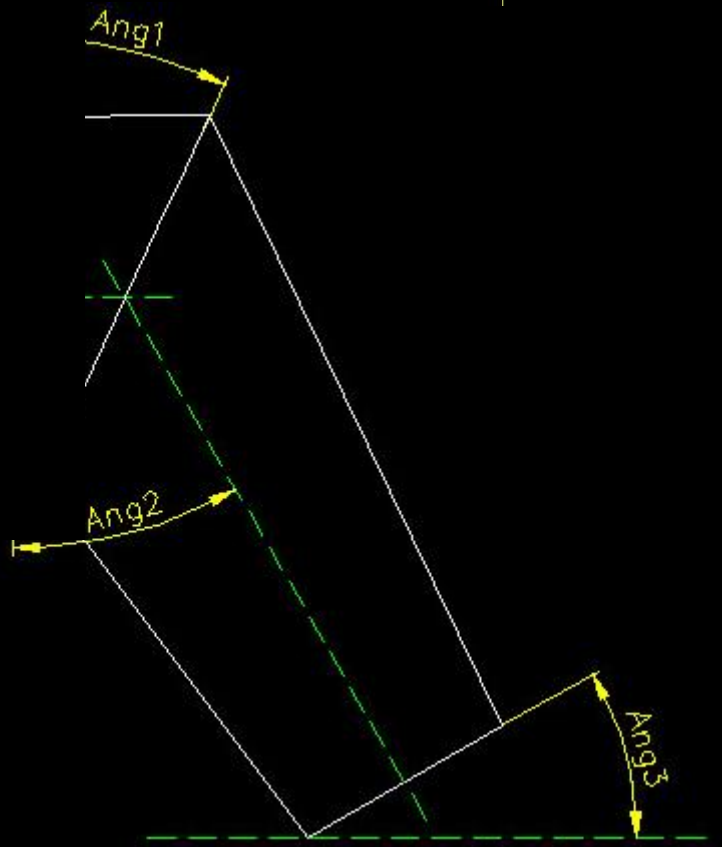
# 135 - Curva Direta Especial ☆

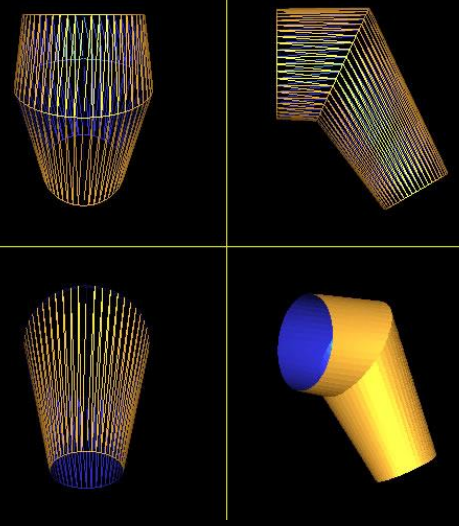
| | |
|---|---|
| D1 | 300 |
| D2 | 340 |
| D3 | 200 |
| A | 400 |
| B | 180 |
| Ang1 | 25 |
| Ang2 | 30 |
| Ang3 | 30 |
| N div | 16 ... |
| Qtd | 1 |
| Calcular 3D | Sim |
| e | 4,8 (Aço) ... |



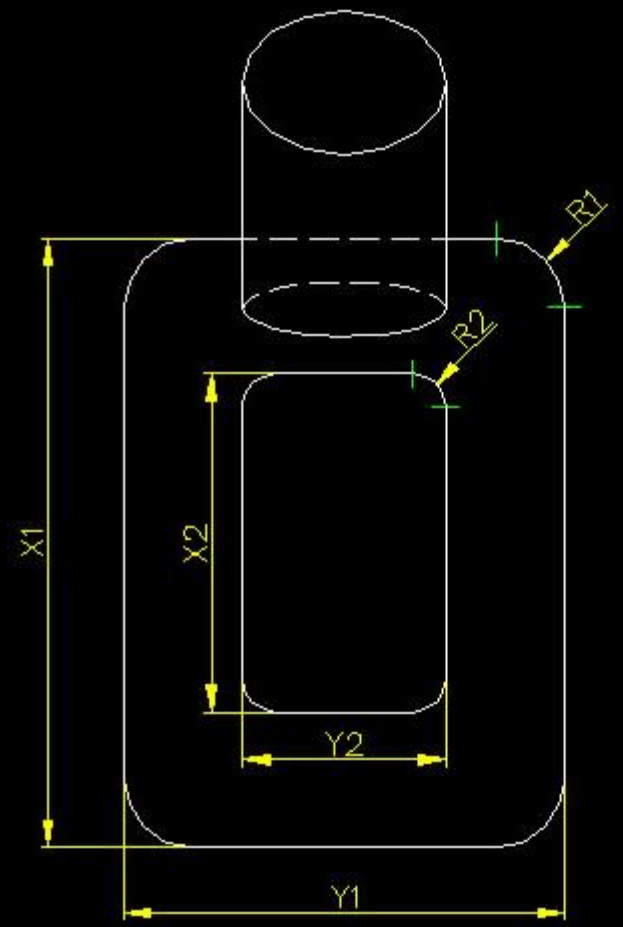



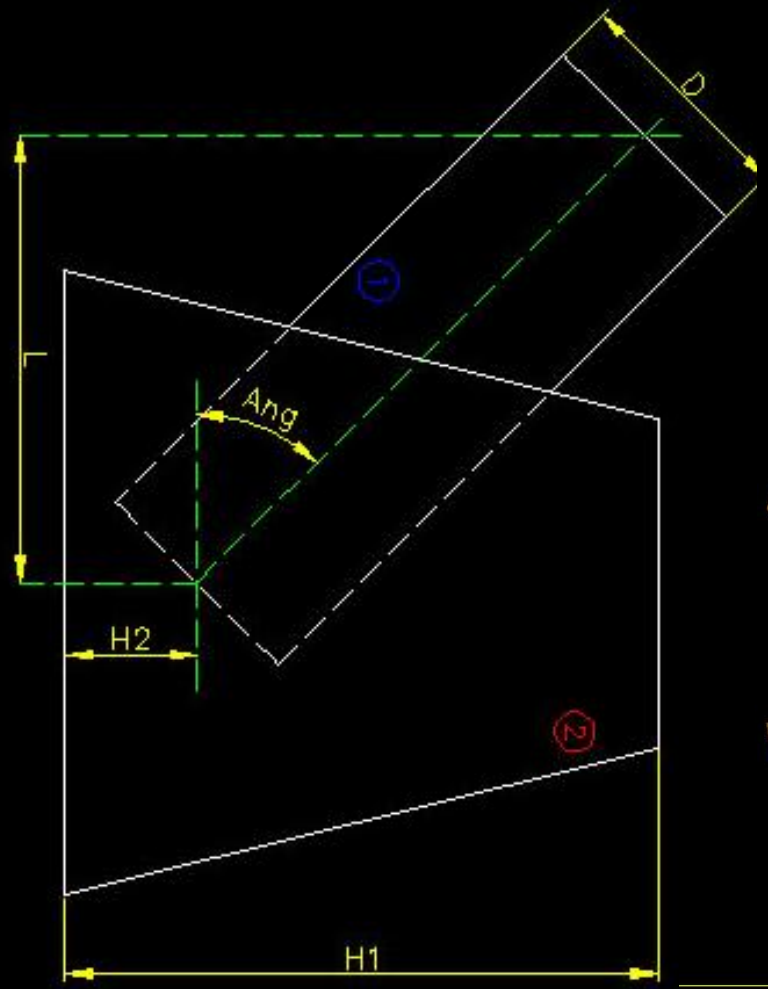


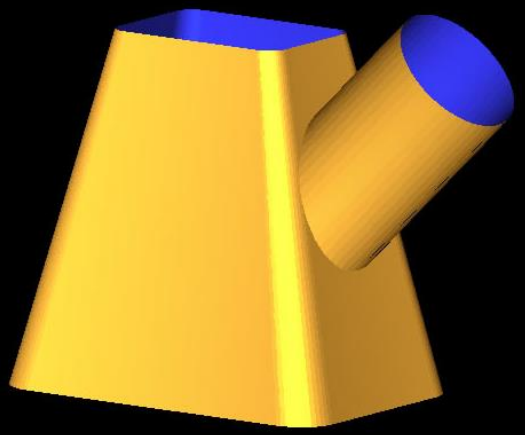



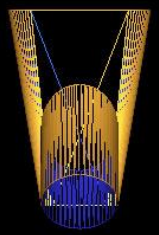
# 136 - Intersecção Cil. em Ret/Ret cantos Arredondados

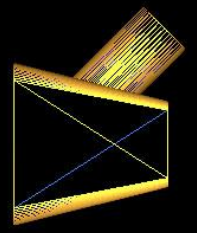
| | |
|---|---|
| X1 | 1000 |
| X2 | 600 |
| Y1 | 600 |
| Y2 | 400 |
| R1 | 100 |
| R2 | 50 |
| H1 | 850 |
| L | 680 |
| H2 | 100 |
| D | 350 |
| Ang | 45 |
| Ndiv1 | 16 |
| Ndiv2 | 16 |
| Qtd | 1 |
| Calcular | 1+2 |
| Calcular 3D | Sim |
| Método | M+M |
| e1 | 7 (Aço) |
| e2 | 7 (Aço) |



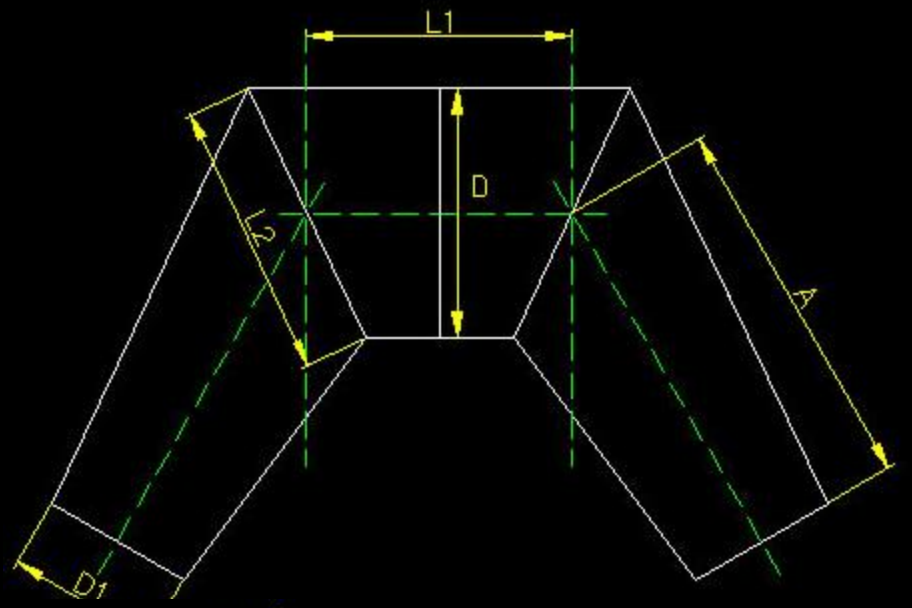



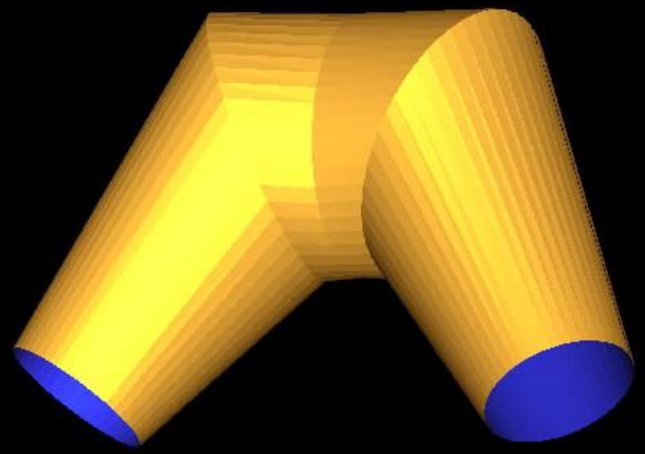


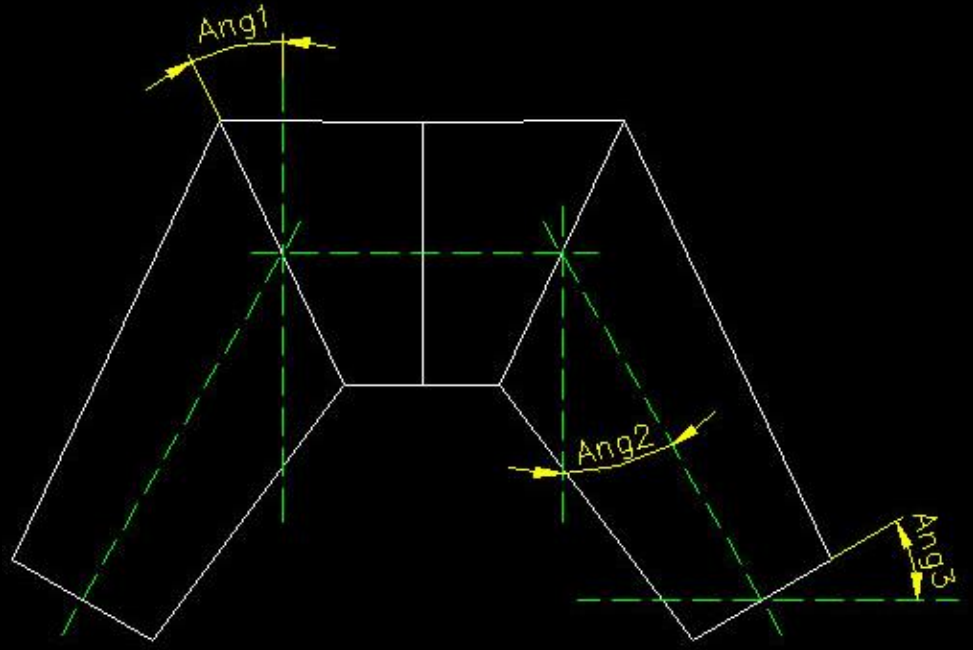


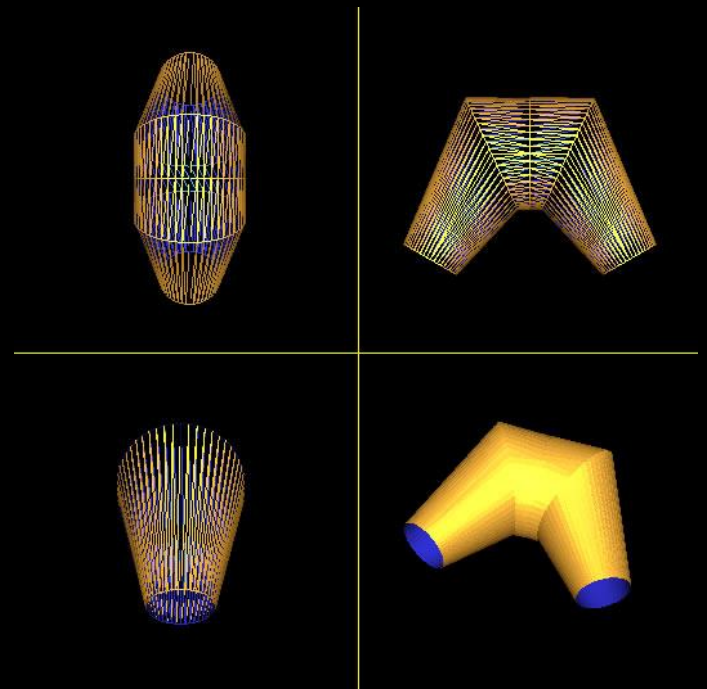
# 137 - Pórtico Especial ☆

| | |
|---|---|
| D | 330 |
| D1 | 200 |
| A | 400 |
| L1 | 250 |
| L2 | 365 |
| Ang1 | 25 |
| Ang2 | 30 |
| Ang3 | 30 |
| N div | 16 ... |
| Qtd | 1 |
| Calcular 3D | Sim |
| e | 4,8 (Aço) ... |



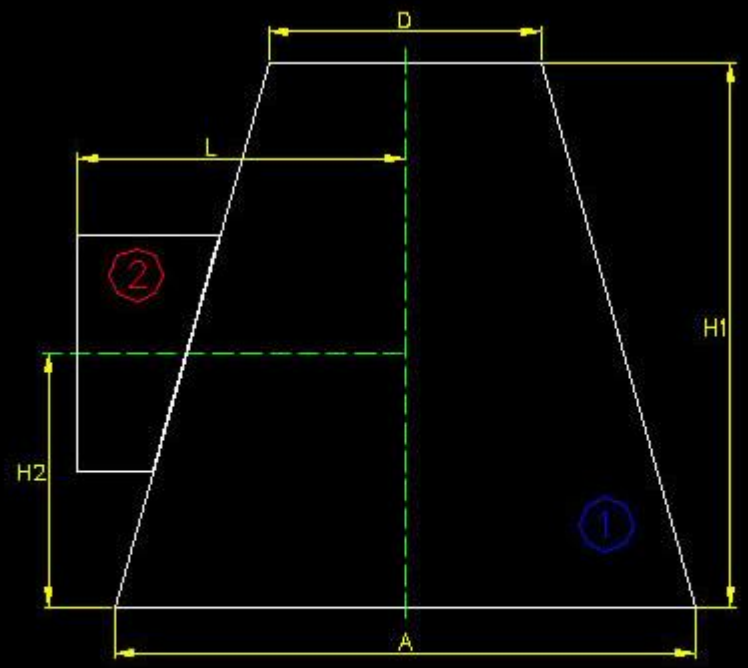



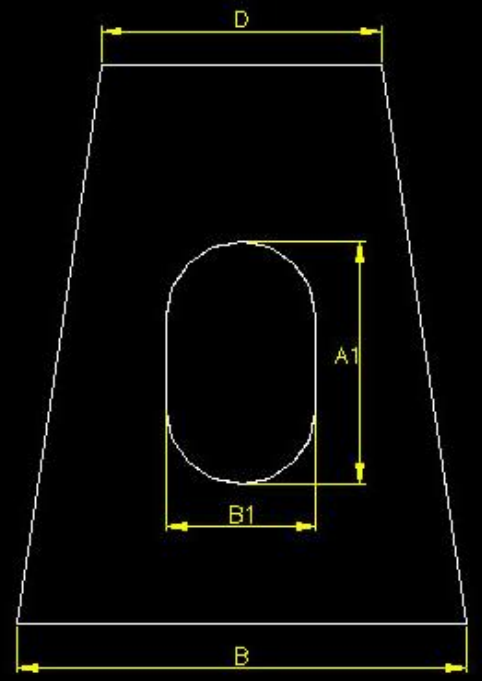


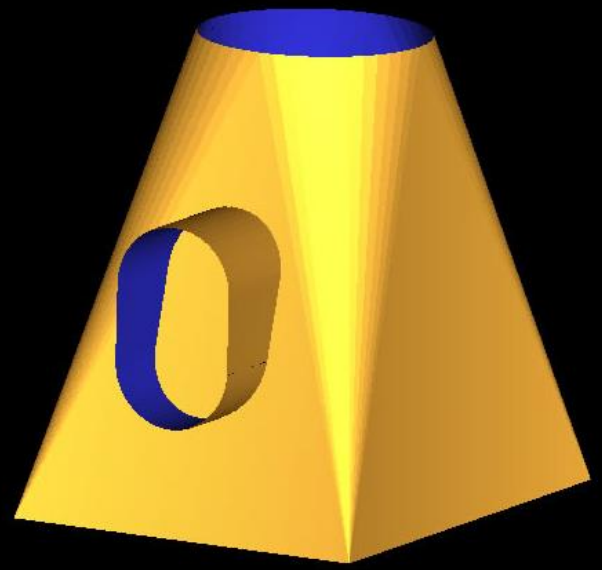



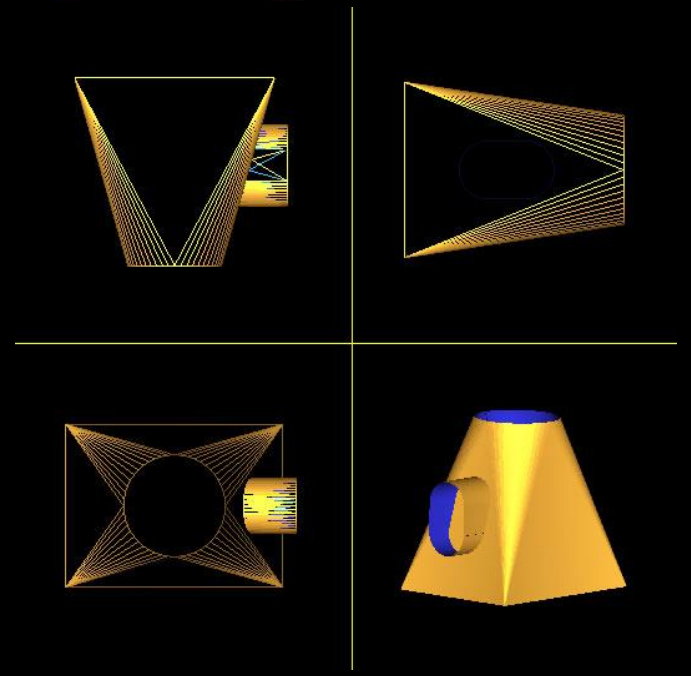
# 138 - Int. Tubo Oval em Transição Ret./Red.

| | |
|---|---|
| D | 750 |
| H1 | 1500 |
| A | 1600 |
| L | 900 |
| H2 | 700 |
| B | 1200 |
| A1 | 650 |
| B1 | 400 |
| Ndiv1 | 16 ... |
| Ndiv2 | 16 ... |
| Qtd | 1 |
| Calcular | 1+2 |
| Calcular 3D | Sim |
| Método | M+M ... |
| e1 | 4,8 (Aço) ... |
| e2 | 4,8 (Aço) ... |



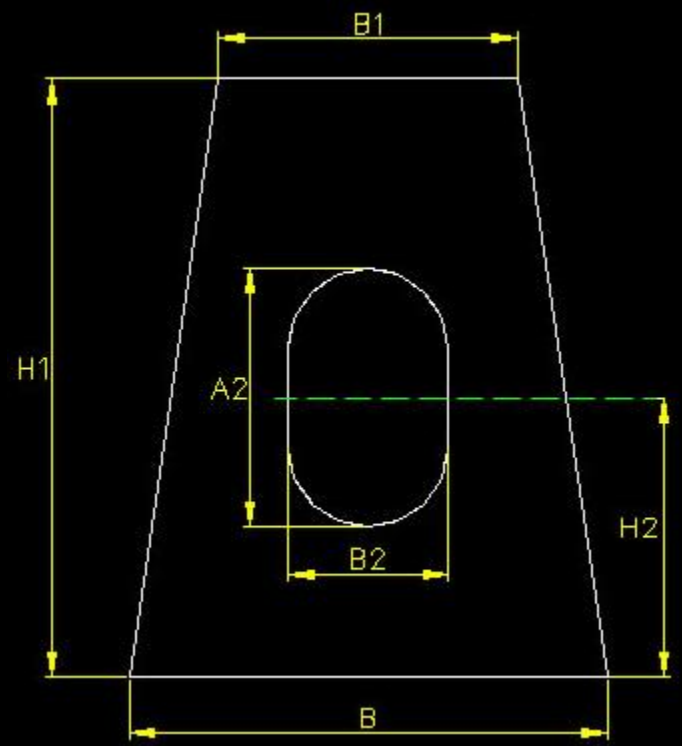



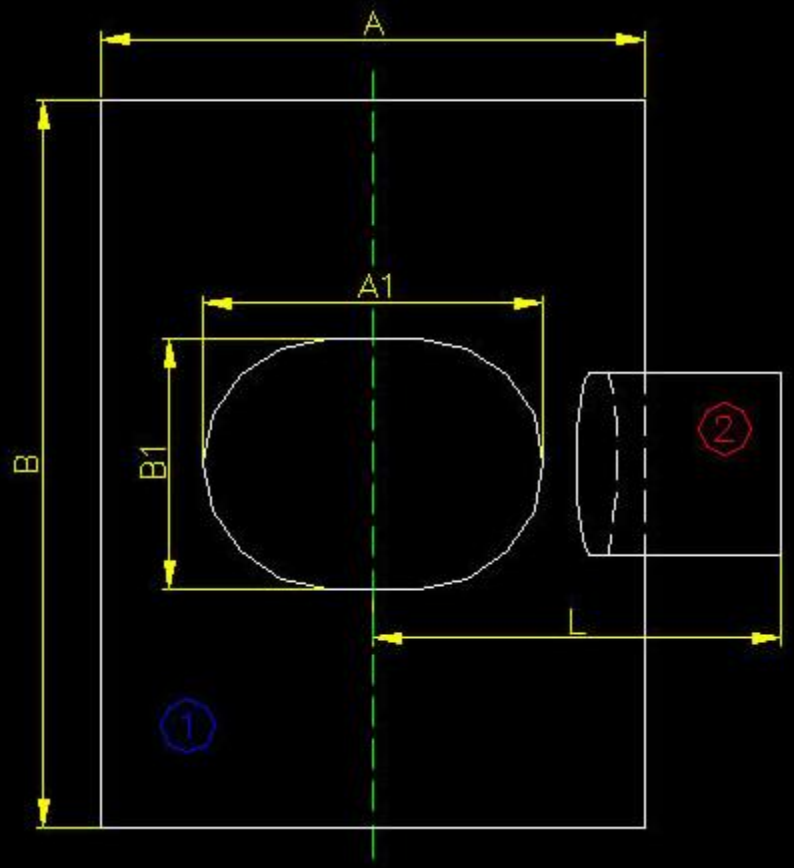



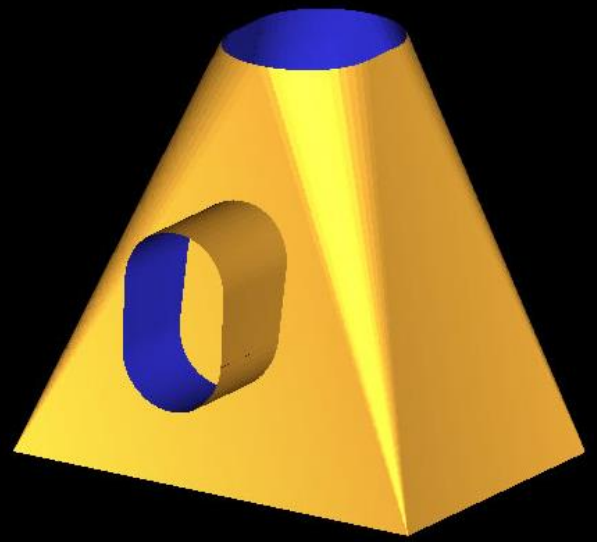


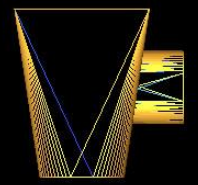
# 139 - Int. Tubo Oval em Transição Ret./Oval

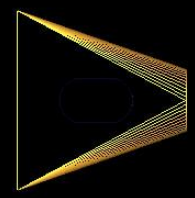
| | |
|---|---|
| B1 | 550 |
| H1 | 1500 |
| A2 | 650 |
| B2 | 400 |
| H2 | 700 |
| B | 1600 |
| A | 1200 |
| A1 | 750 |
| L | 900 |
| Ndiv1 | 16 ... |
| Ndiv2 | 16 ... |
| Qtd | 1 |
| Calcular | 1+2 |
| Calcular 3D | Sim |
| Método | M+M ... |
| e1 | 4,8 (Aço) ... |
| e2 | 4,8 (Aço) ... |

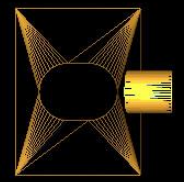


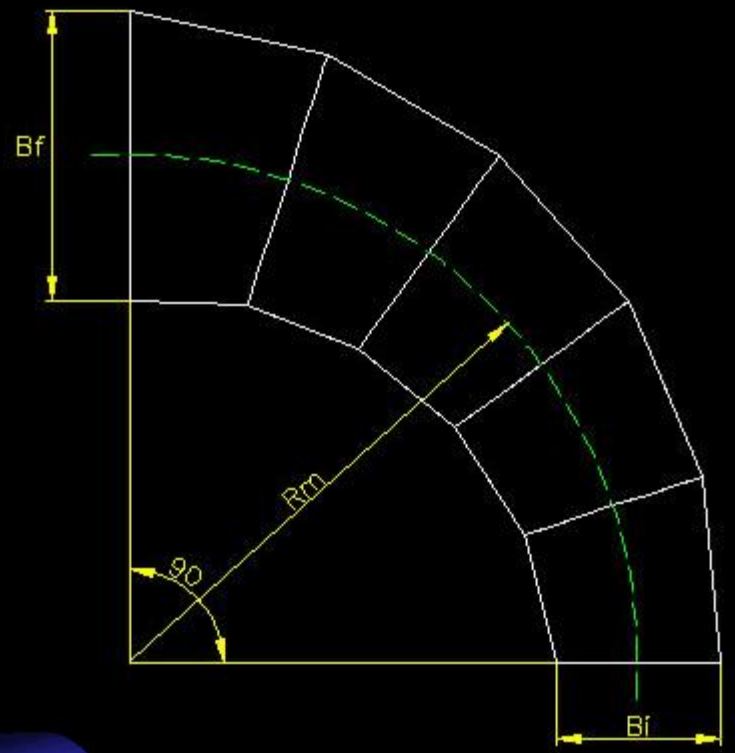


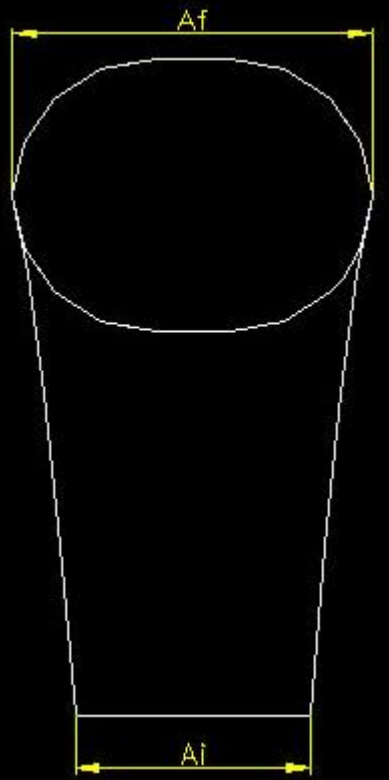


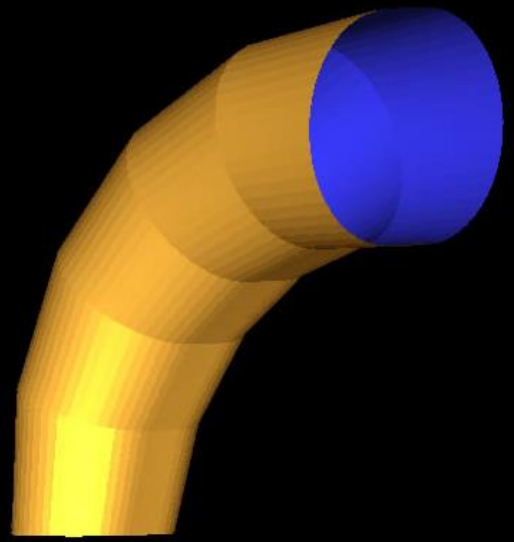


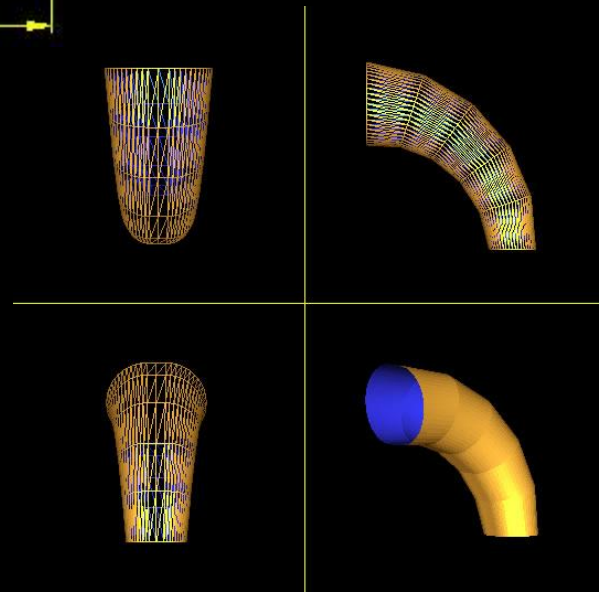
# 140 - Curva de gomos Oval 90° com Redução ☆

| | |
|---|---|
| **Bf** | 800 |
| **Bi** | 450 |
| **Rm** | 1400 |
| **Ai** | 600 |
| **Af** | 1000 |
| **N div** | 16 ... |
| **Qtd** | 1 |
| **Calcular 3D** | Sim |
| **e** | 12,7 (Aço) ... |



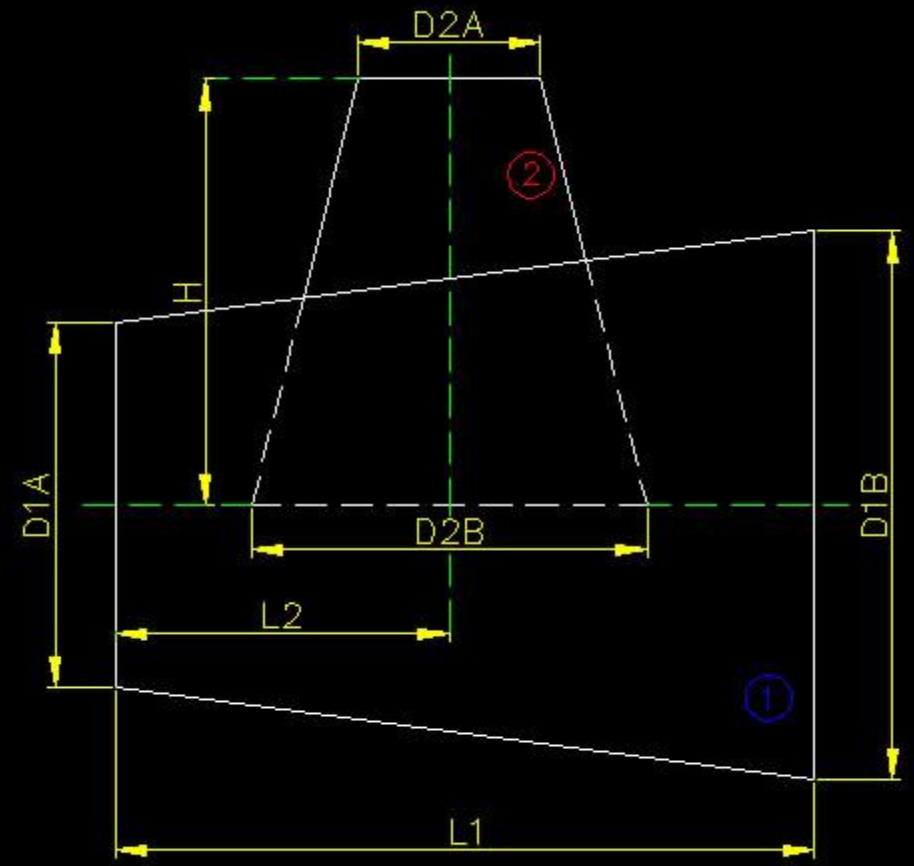



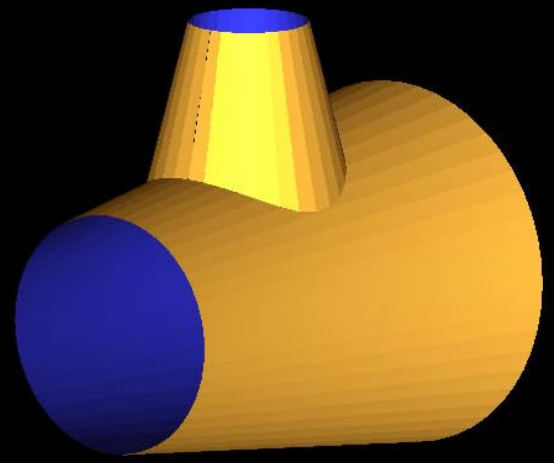



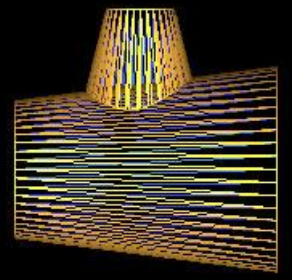


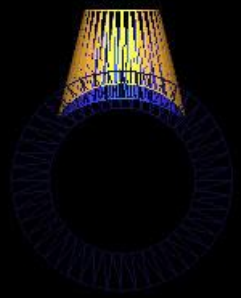
# 141 - Intersecção de Cone/Cone Alinhada

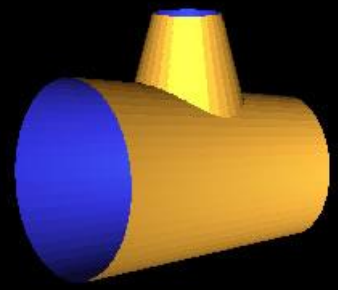
| | |
|---|---|
| D1A | 600 |
| D1B | 900 |
| D2A | 300 |
| D2B | 650 |
| H | 700 |
| L1 | 1150 |
| L2 | 550 |
| Ndiv1 | 32 ... |
| Ndiv2 | 32 ... |
| Qtd | 1 |
| Calcular | 1+2 |
| Calcular 3D | Sim |
| Método | M+M ... |
| e1 | 10 (Aço) ... |
| e2 | 8 (Aço) ... |



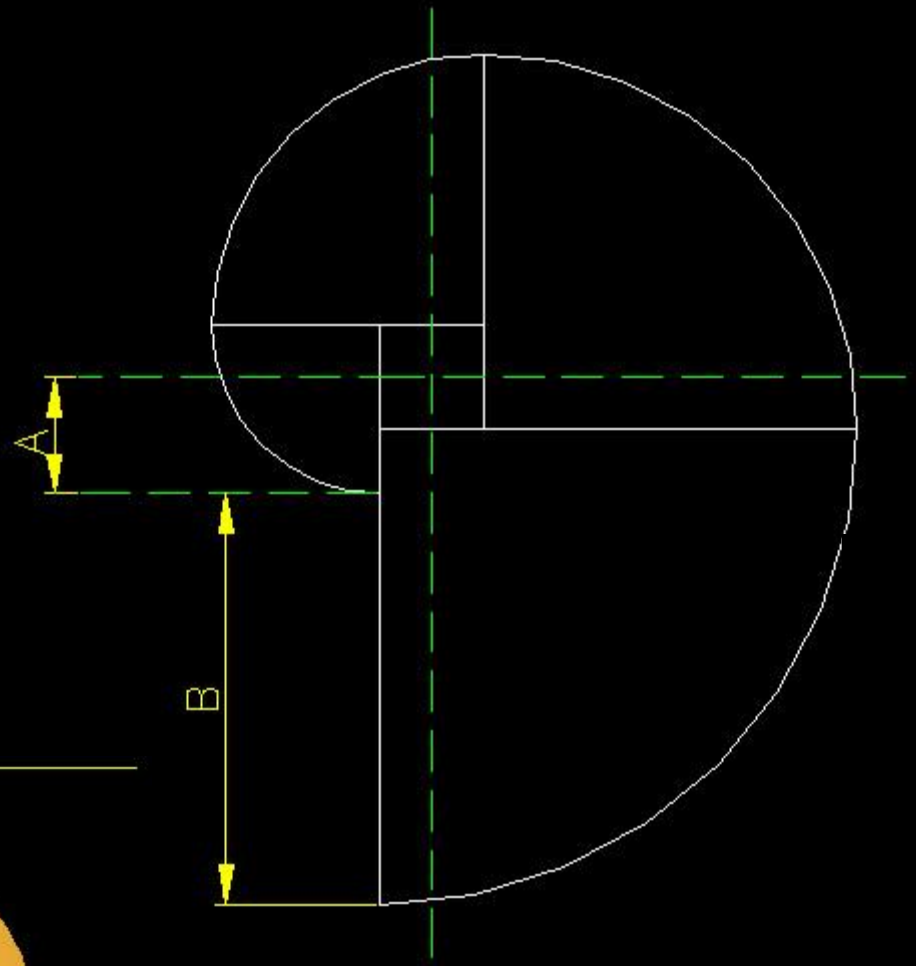


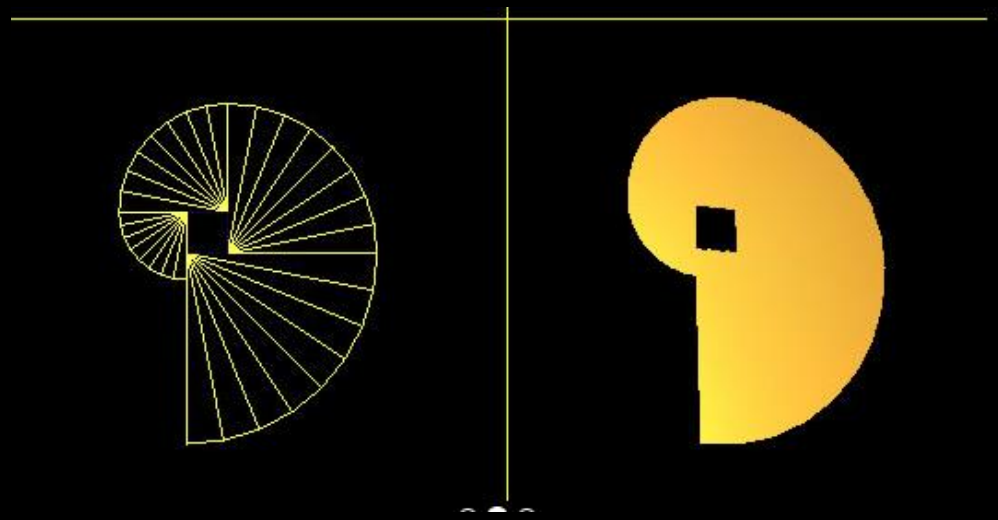


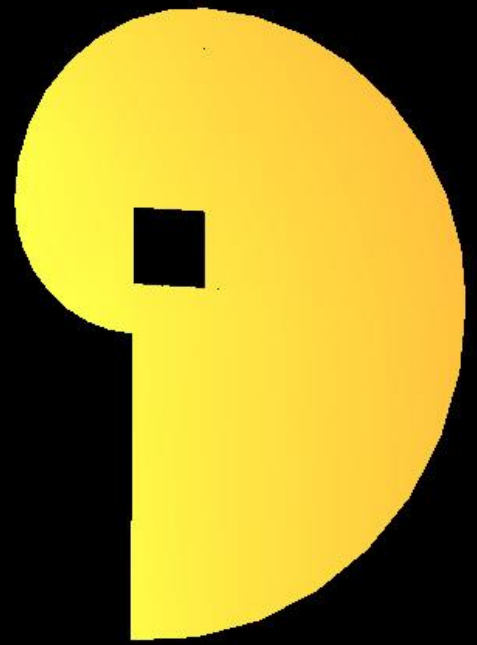


# 143 - Espiral ☆

| | |
|---|---|
| A | 100 |
| B | 350 |
| Qtd | 1 |
| Calcular 3D | Sim |
| e | 1 (Aço) ... |

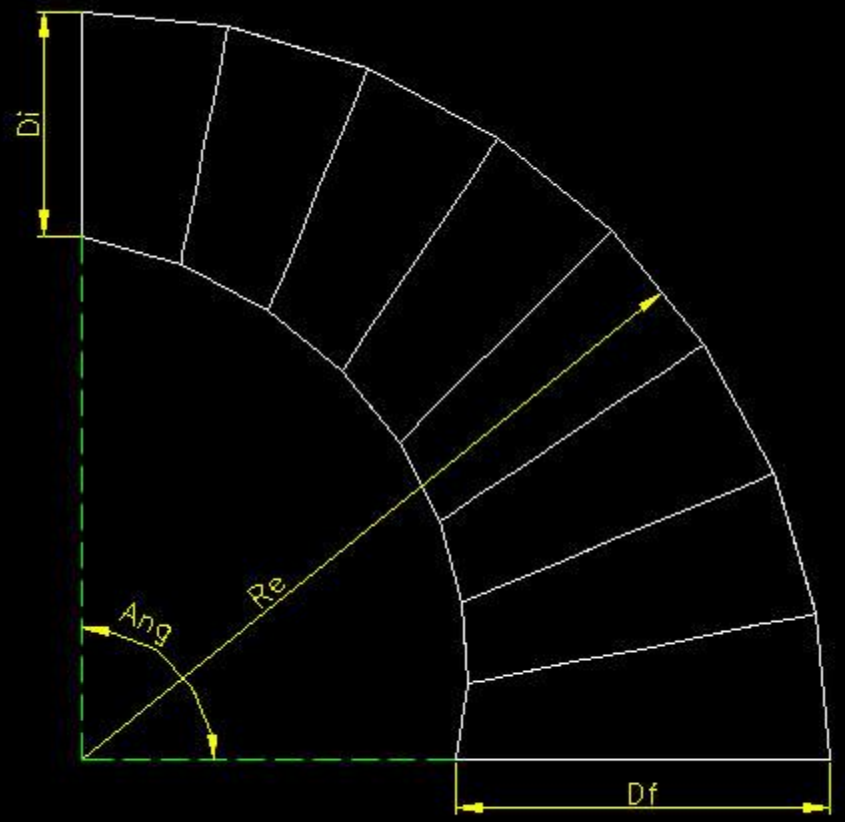


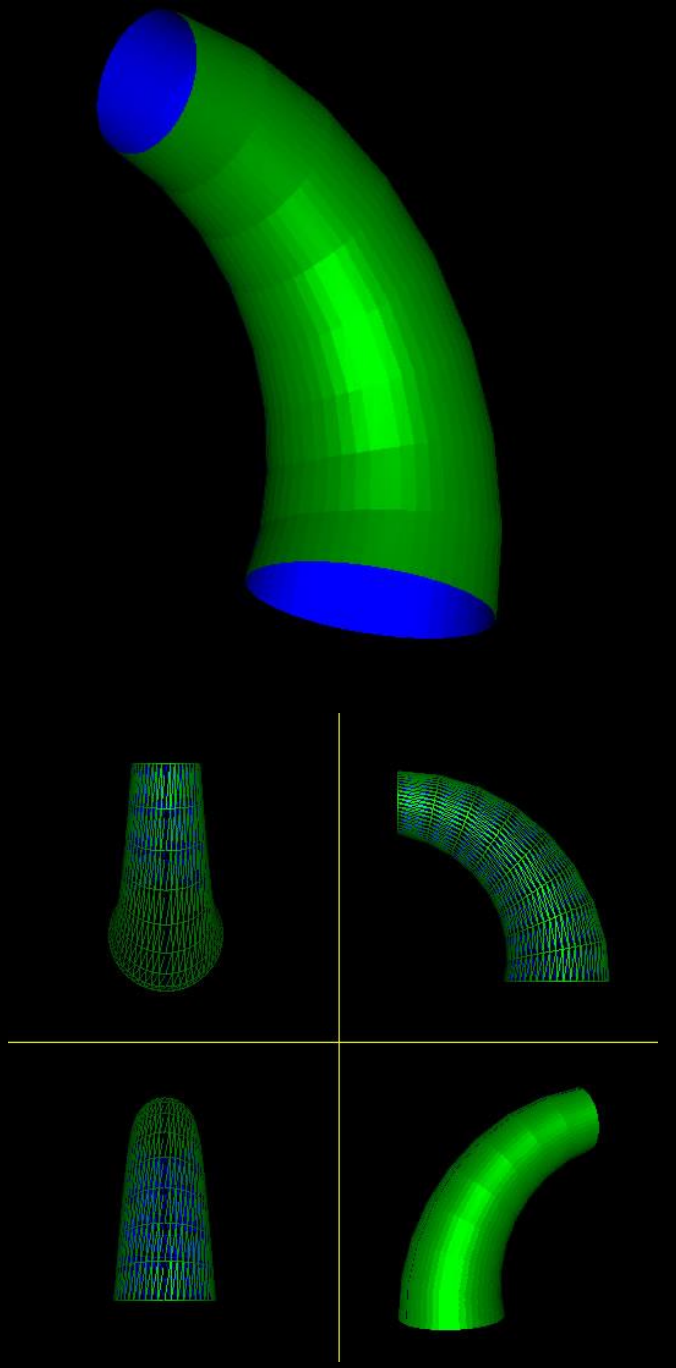





# 144 - Curva Cônica Exc. Genérica - Re

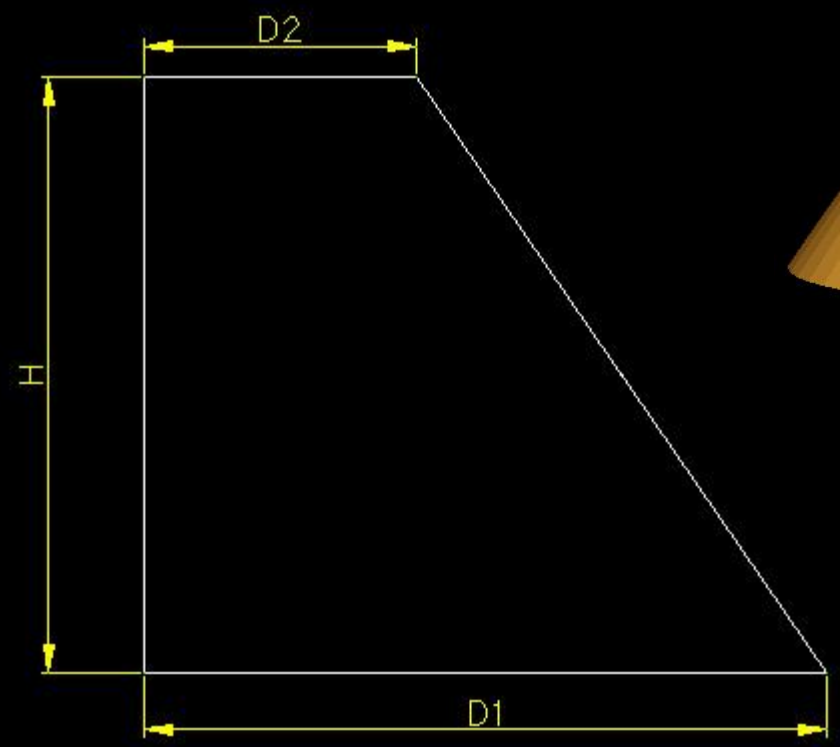
| | |
|---|---|
| Re | 2000 |
| Ang | 80 |
| Di | 600 |
| Df | 1000 |
| Ng | 8 |
| N div | 32 ... |
| Qtd | 1 |
| Calcular 3D | Sim |
| e | 12,7 (Aço) ... |

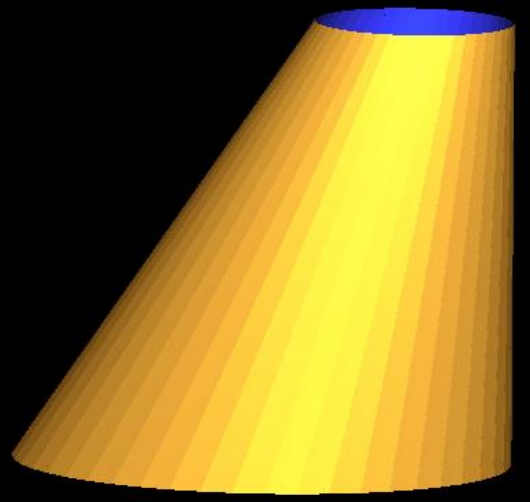


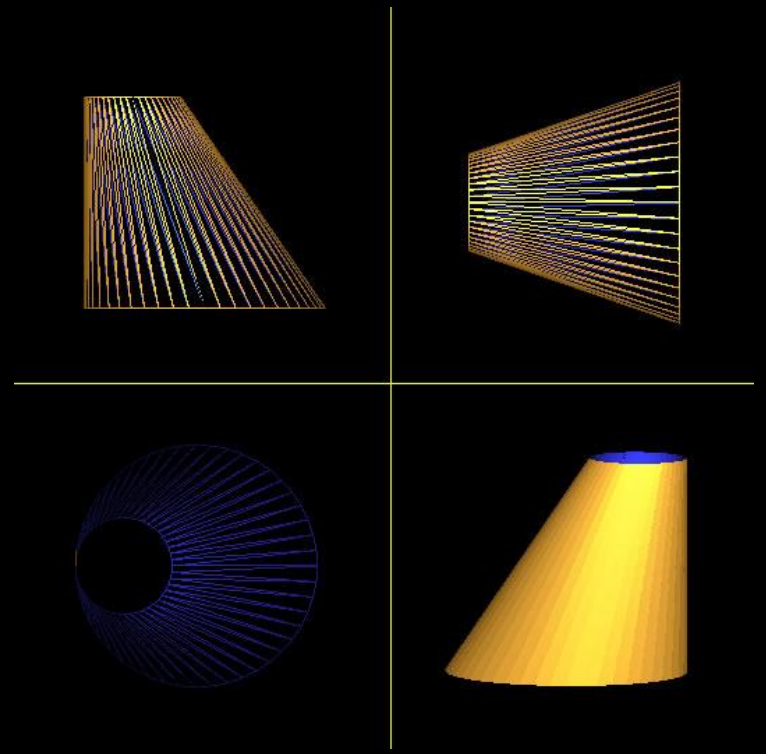



# 145 - Tronco de Cone Exc. Apoiado

| | |
|---|---|
| **D1** | 1000 |
| **D2** | 500 |
| **H** | 875 |
| **N div** | 32 ... |
| **Qtd** | 1 |
| **Calcular 3D** | Sim |
| **e** | 12,7 (Aço) ... |

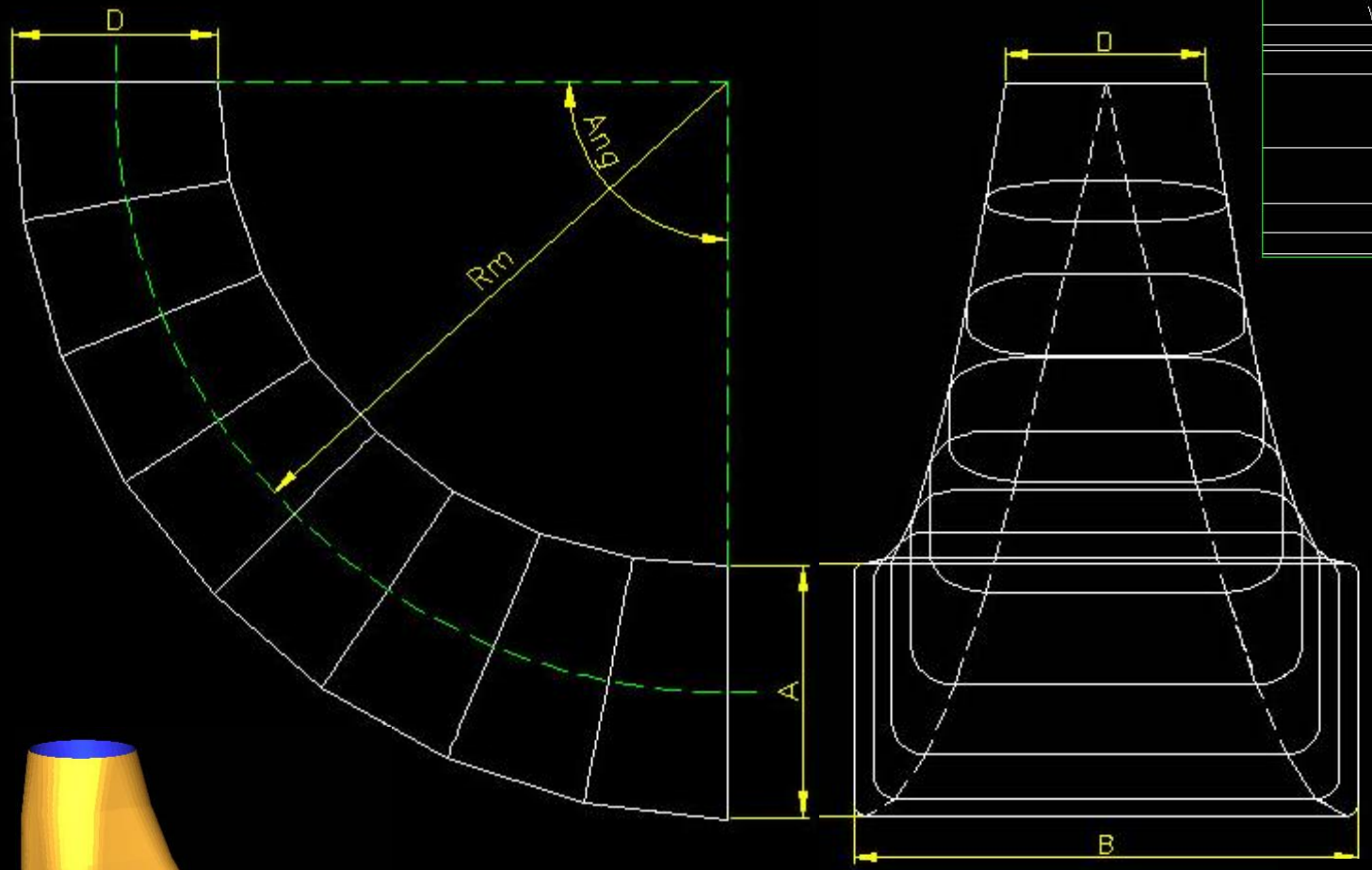


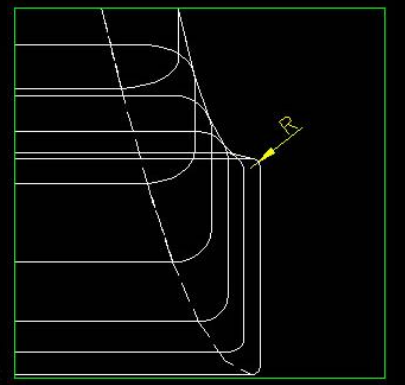



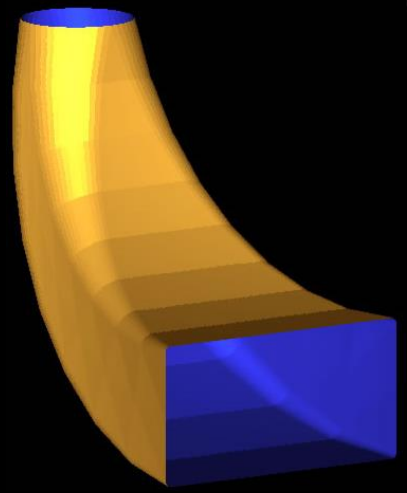


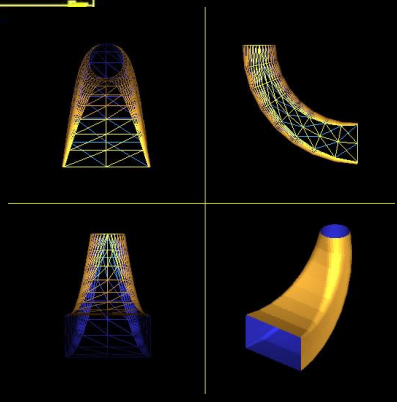
# 147 - Tubo de Sucção - Rm ☆

| | |
|---|---|
| B | 2000 |
| A | 1000 |
| D | 800 |
| Rm | 2400 |
| R | 35 |
| Ang | 90 |
| Ng | 8 |
| Ndiv | 32 ... |
| Qtd | 1 |
| Calcular 3D | Sim ▾ |
| e | 12,7 (Aço) ... |



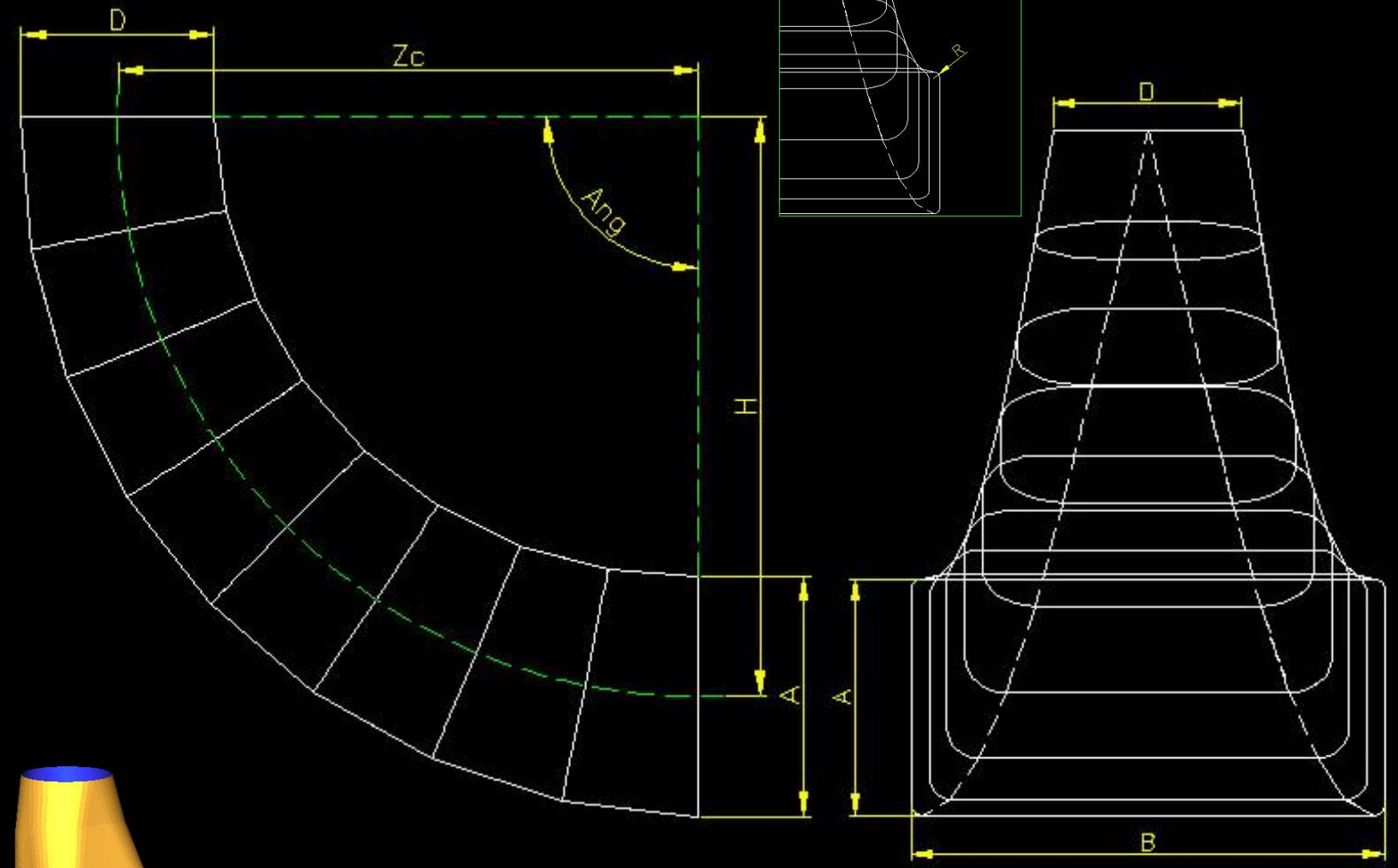



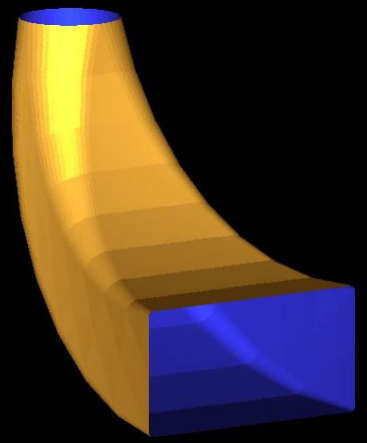



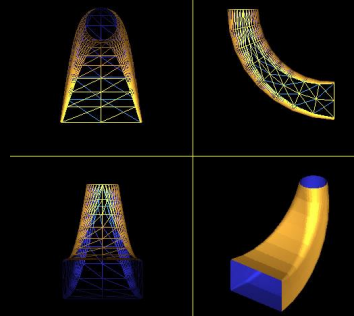


# 148 - Tubo de Sucção Raio variável

| | |
|---|---|
| B | 1000 |
| A | 550 |
| D | 500 |
| H | 1200 |
| Zc | 1400 |
| R | 35 |
| Ang | 90 |
| Ng | 8 |
| Ndiv | 16 ... |
| Qtd | 1 |
| Calcular 3D | Sim |
| e | 12,7 (Aço) ... |

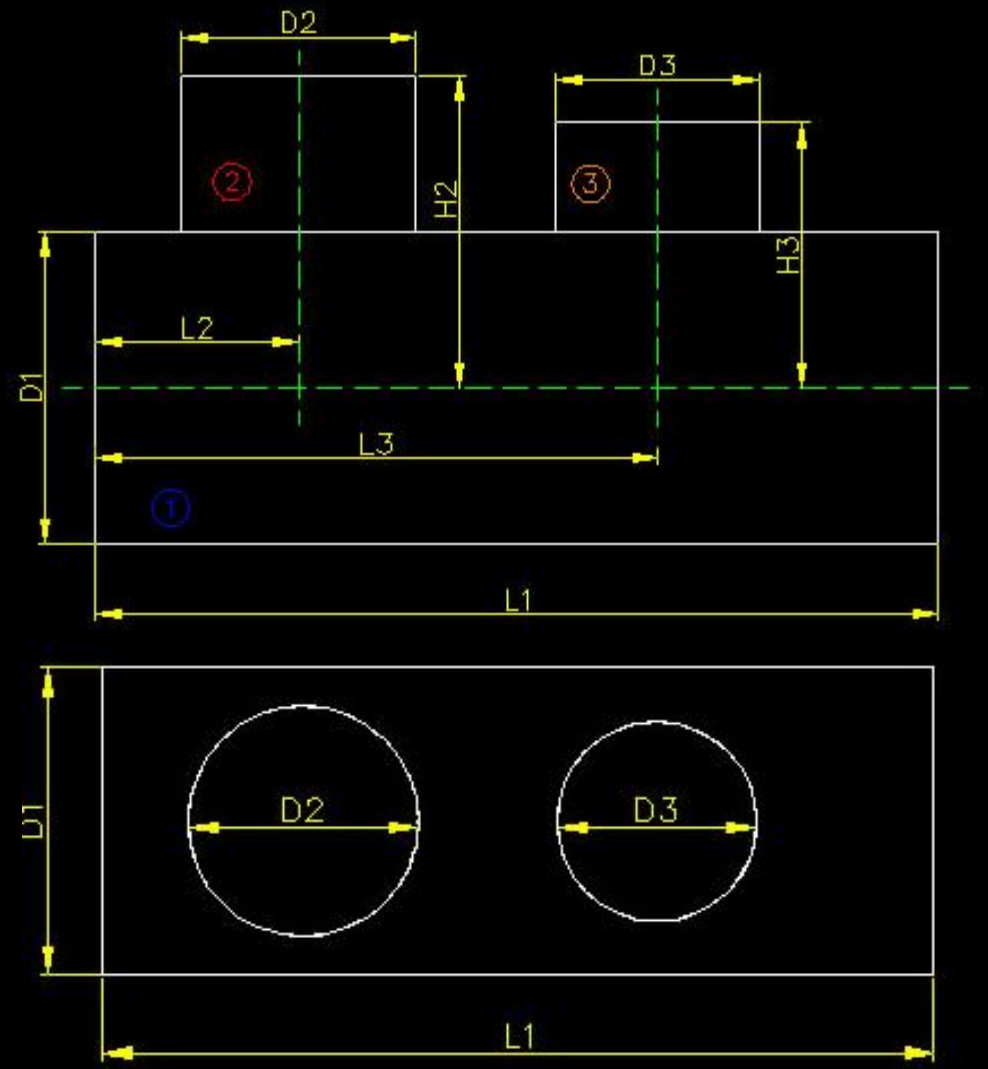


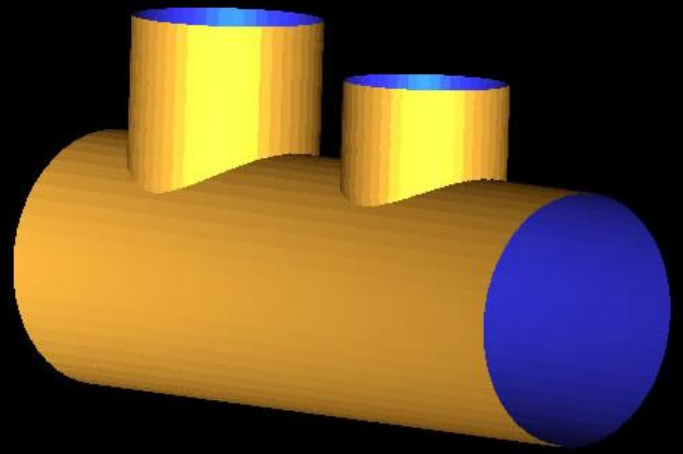



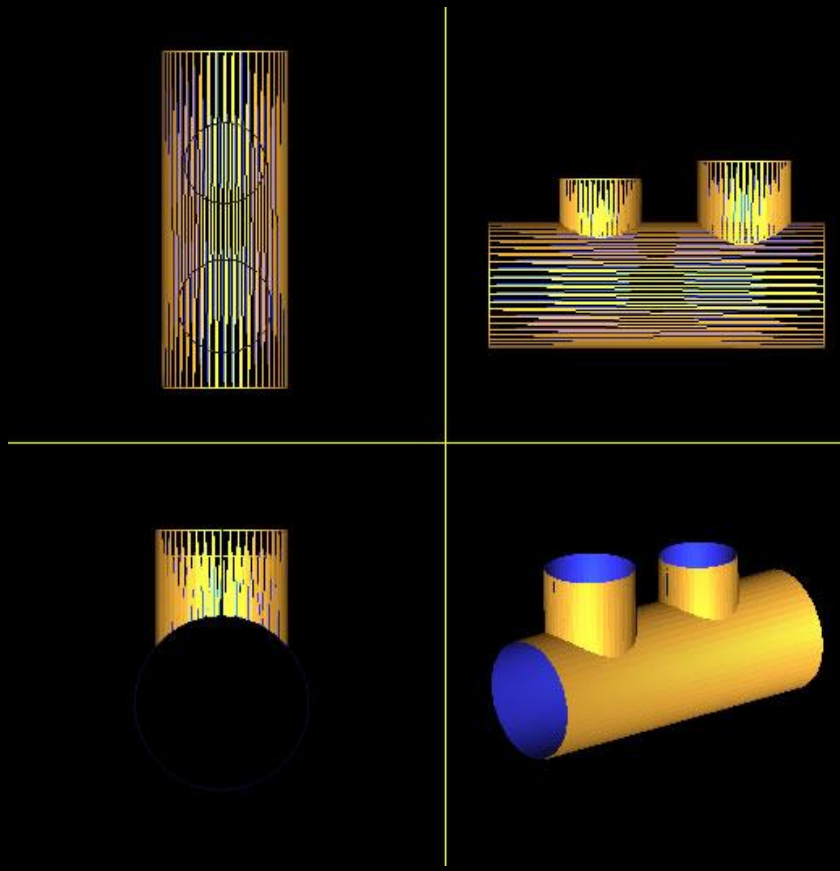


# 149 - Dupla Intersecção em Cilindro

| | |
|---|---|
| D1 | 1000 |
| D2 | 750 |
| D3 | 650 |
| L1 | 2700 |
| L2 | 650 |
| L3 | 1800 |
| H2 | 1000 |
| H3 | 850 |
| Ndiv1 | 32 |
| Ndiv2 | 32 |
| Ndiv3 | 32 |
| Qtd | 1 |
| Calcular 3D | Sim |
| Método | M+M |
| e1 | 12,7 (Aço) |
| e2 | 12,7 (Aço) |
| e3 | 12,7 (Aço) |

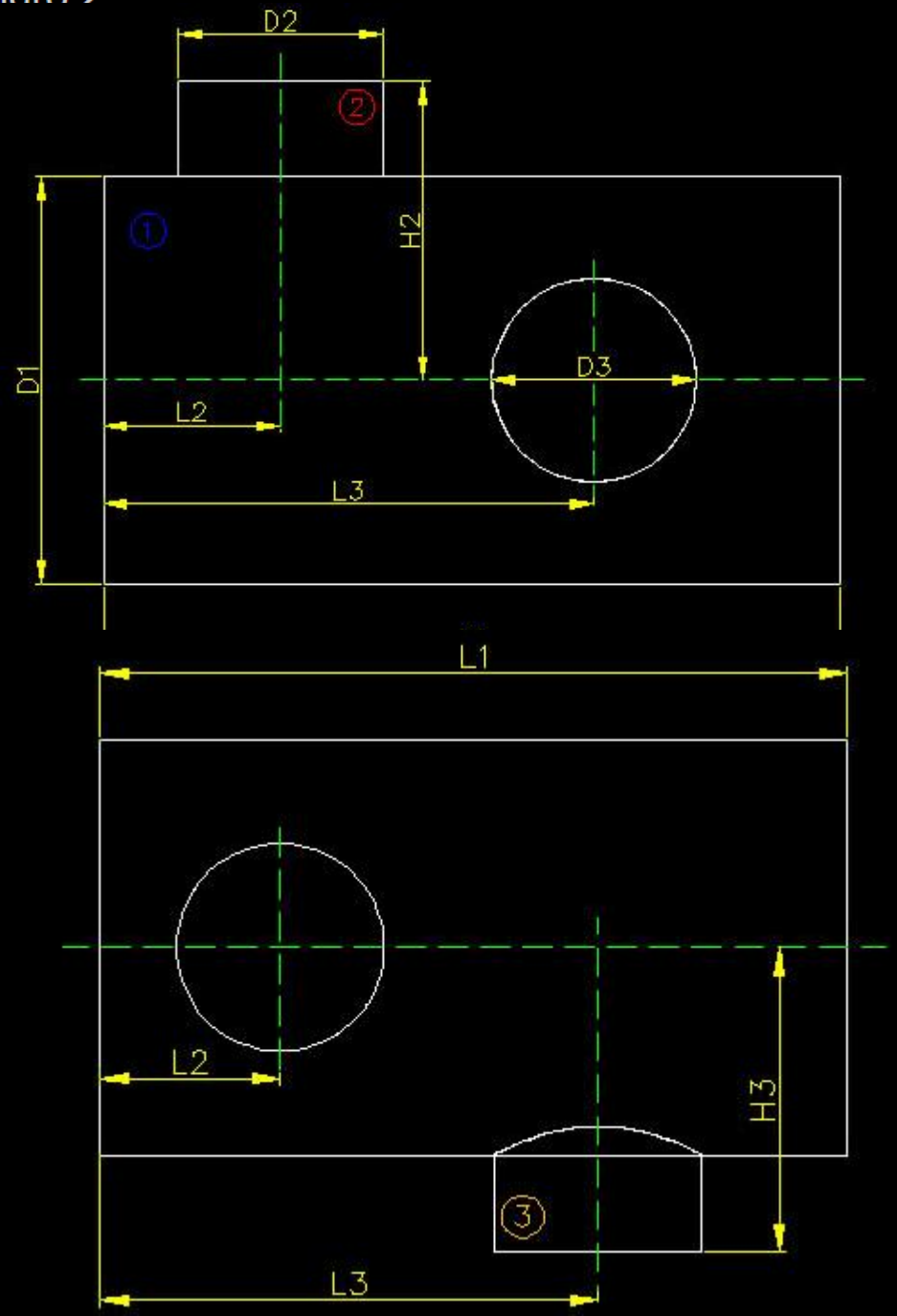


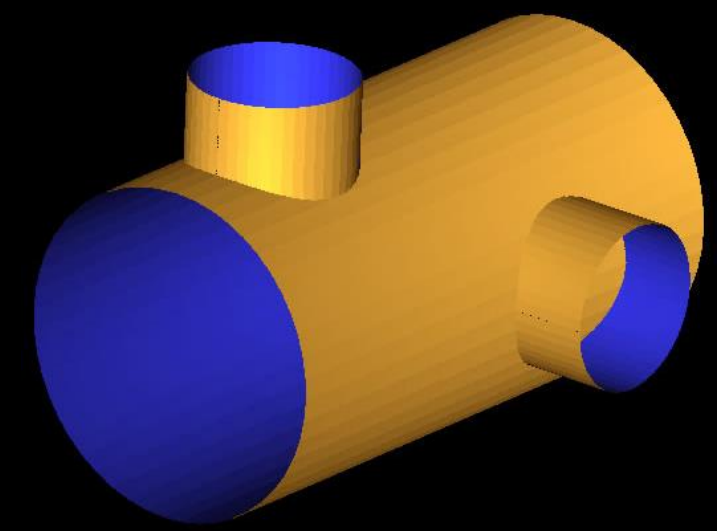



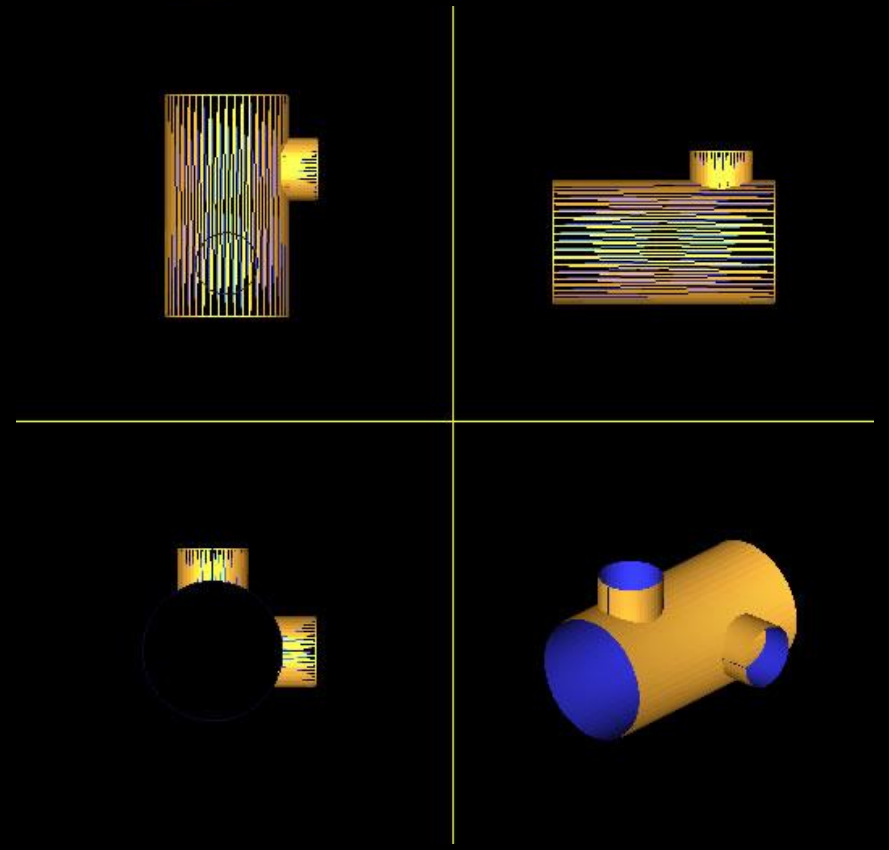


# 152 - Dupla Intersecção em Cilindro 2

| | |
|---|---|
| D1 | 1500 |
| D2 | 750 |
| D3 | 750 |
| L1 | 2700 |
| L2 | 650 |
| L3 | 1800 |
| H2 | 1100 |
| H3 | 1100 |
| Ndiv1 | 32 |
| Ndiv2 | 32 |
| Ndiv3 | 32 |
| Qtd | 1 |
| Calcular 3D | Sim |
| Método | M+M |
| e1 | 12,7 (Aço) |
| e2 | 12,7 (Aço) |
| e3 | 12,7 (Aço) |

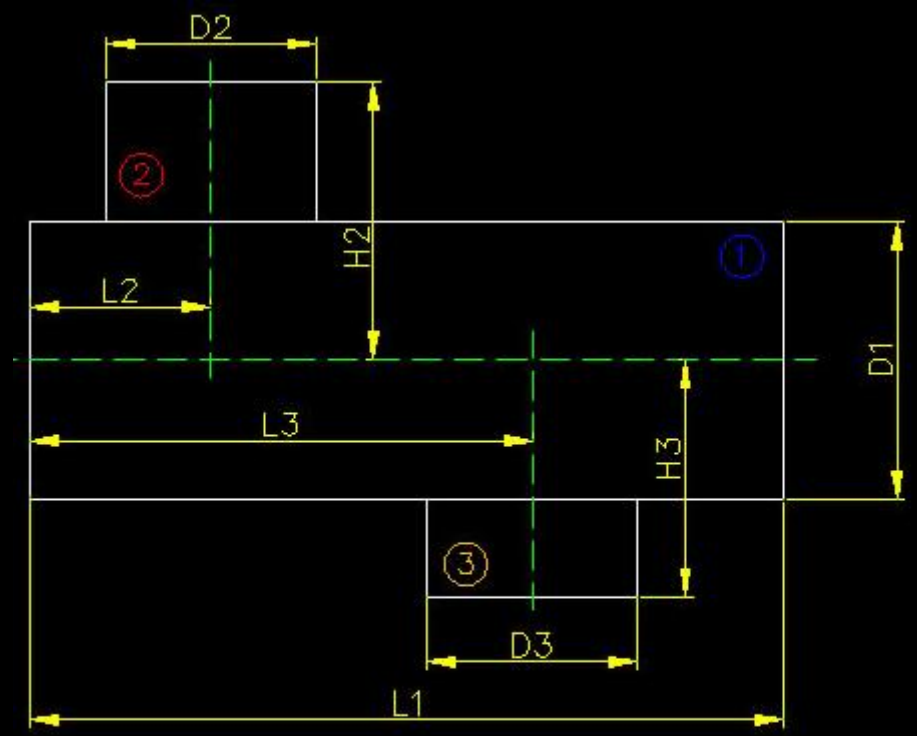


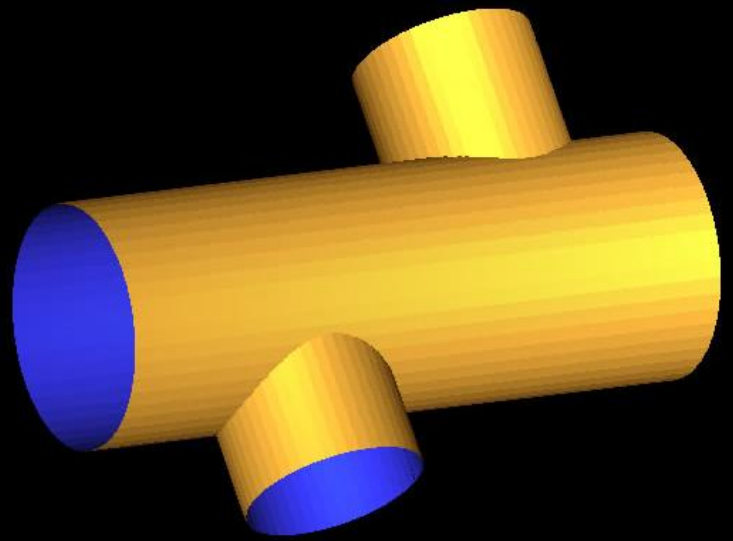



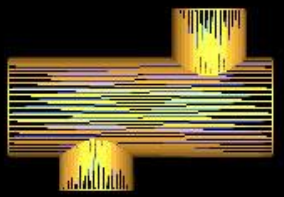


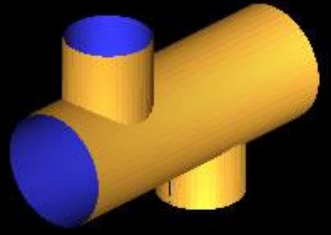
# 153 - Dupla Intersecção em Cilindro 3

| | |
|---|---|
| D1 | 1000 |
| D2 | 750 |
| D3 | 750 |
| L1 | 2700 |
| L2 | 650 |
| L3 | 1800 |
| H2 | 1000 |
| H3 | 850 |
| Ndiv1 | 32 |
| Ndiv2 | 32 |
| Ndiv3 | 32 |
| Qtd | 1 |
| Calcular 3D | Sim |
| Método | M+M |
| e1 | 12,7 (Aço) |
| e2 | 12,7 (Aço) |
| e3 | 12,7 (Aço) |



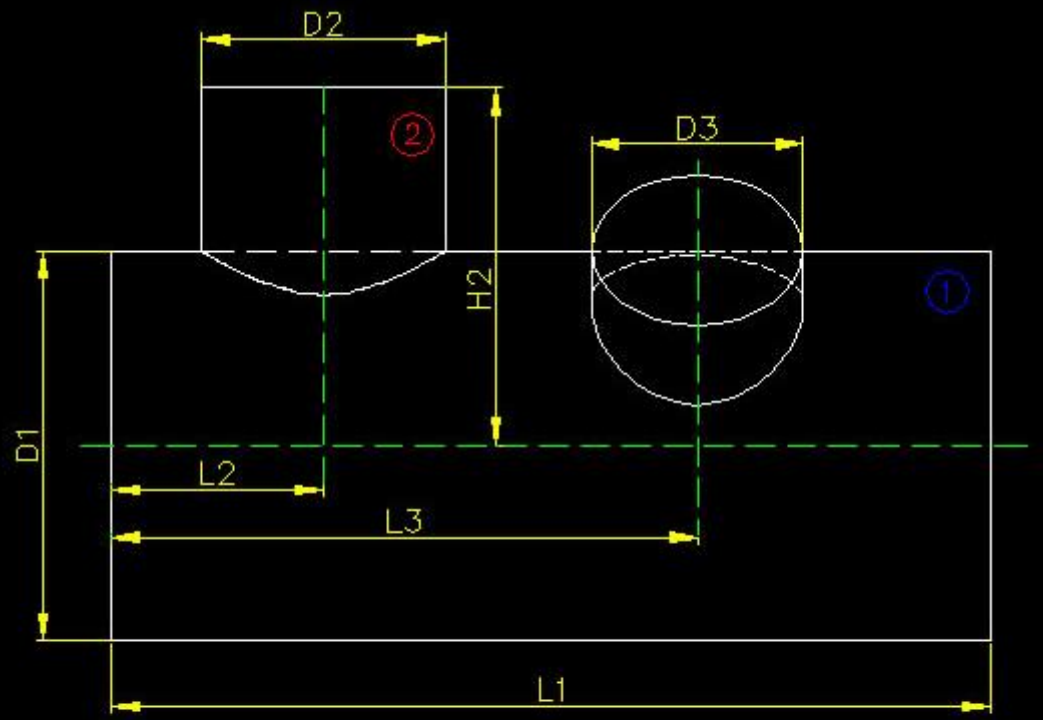



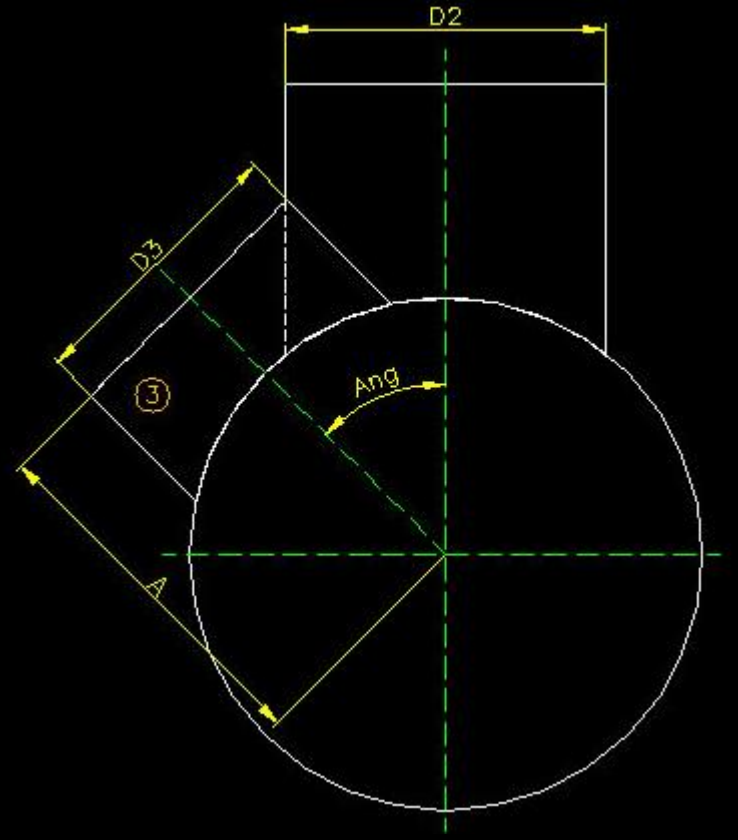


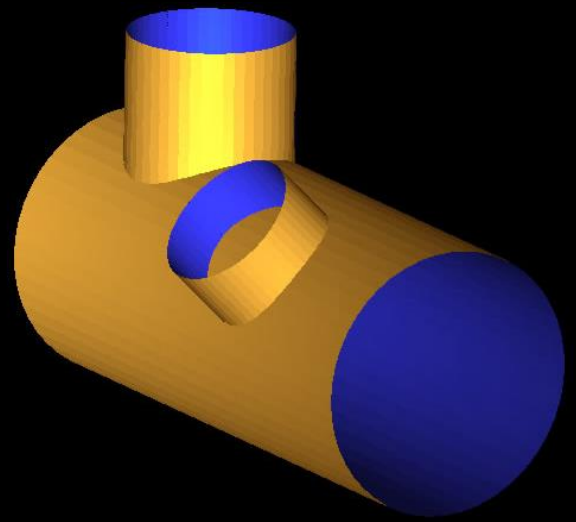


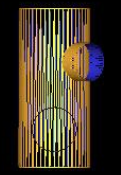
# 154 - Dupla Intersecção Cilíndrica em ângulo

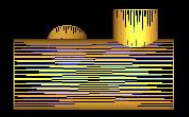
| | |
|---|---|
| D1 | 1500 |
| D2 | 750 |
| D3 | 650 |
| L1 | 2700 |
| L2 | 650 |
| L3 | 1800 |
| H2 | 1100 |
| A | 1000 |
| Ang | 45 |
| Ndiv1 | 32 |
| Ndiv2 | 32 |
| Ndiv3 | 32 |
| Qtd | 1 |
| Calcular 3D | Sim |
| Método | M+M |
| e1 | 12,7 (Aço) |
| e2 | 12,7 (Aço) |
| e3 | 12,7 (Aço) |

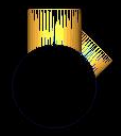


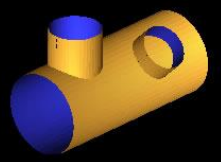





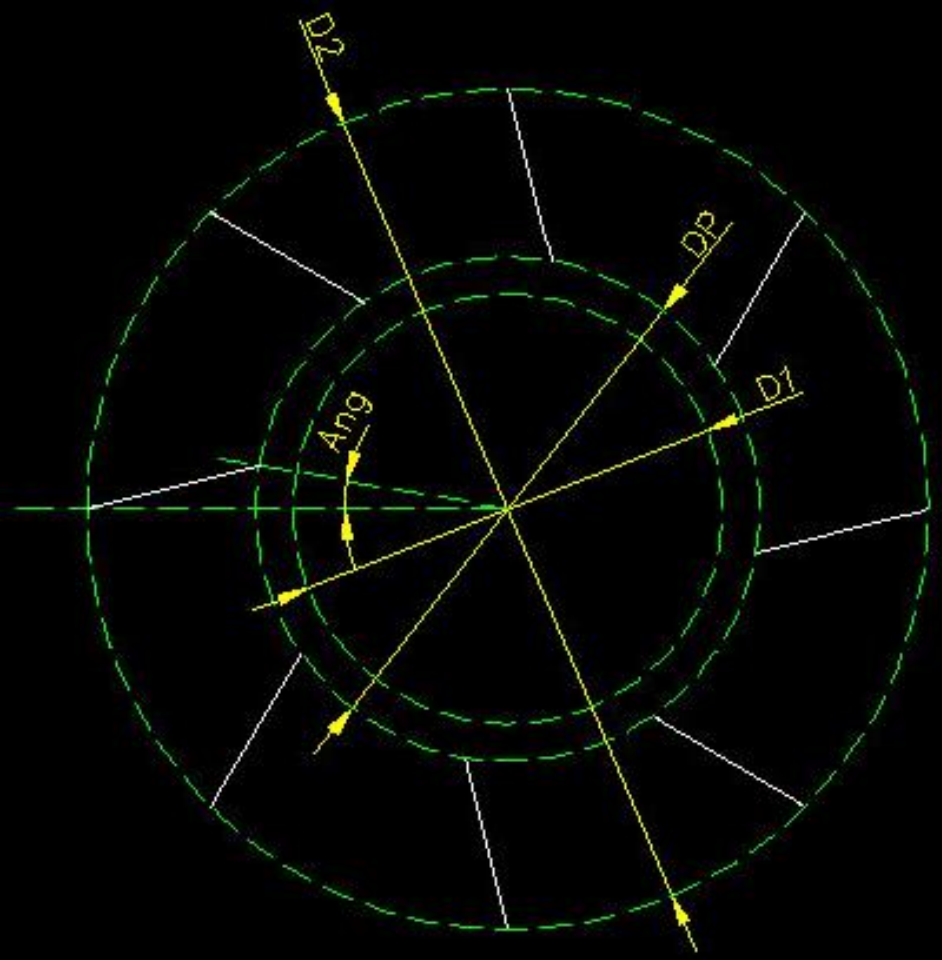


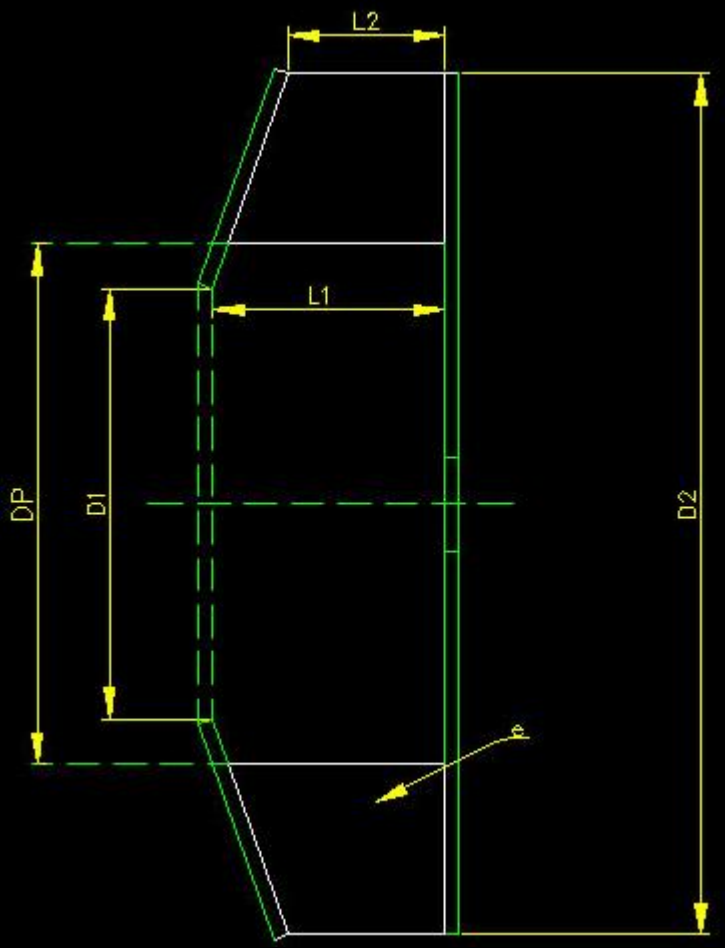


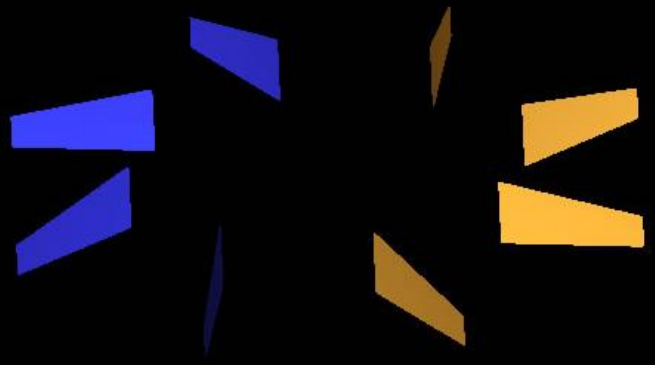


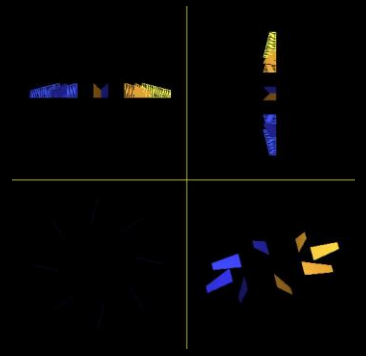
# 158 - Pás retas ☆

| | |
|---|---|
| D1 | 550 |
| D2 | 1000 |
| DP | 600 |
| Ang | 10 |
| L1 | 250 |
| L2 | 150 |
| NP | 8 |
| N div | 16 ... |
| Qtd | 1 |
| Calcular 3D | Sim ▾ |
| e | 1 (Aço) ... |



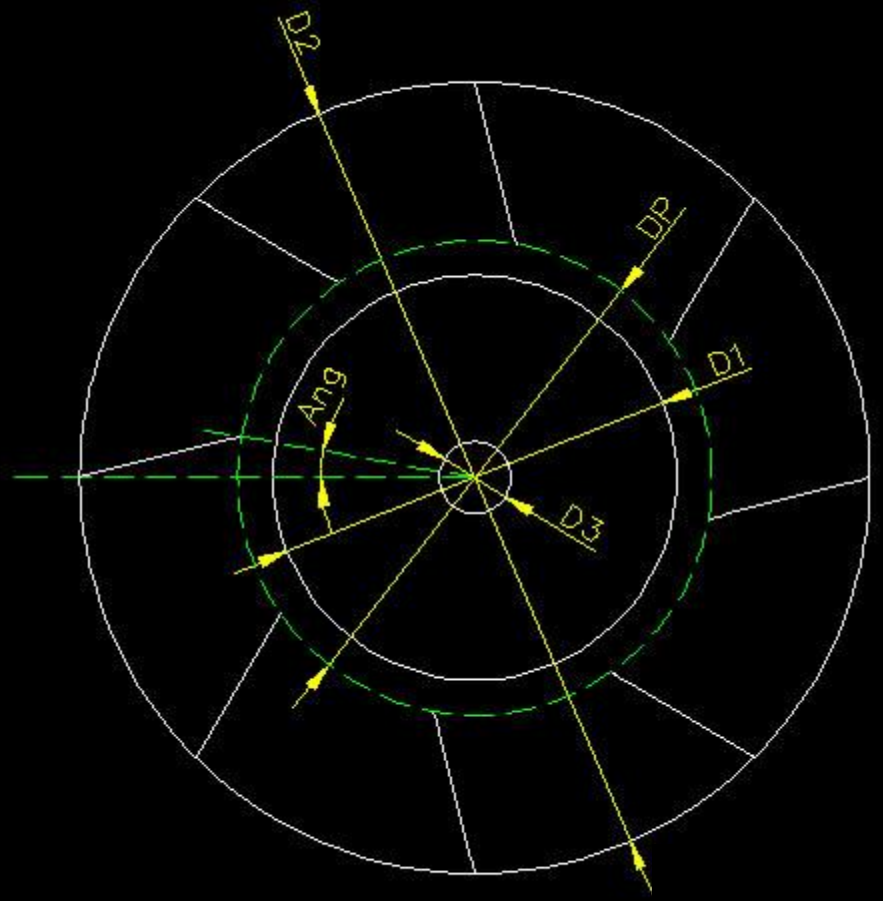



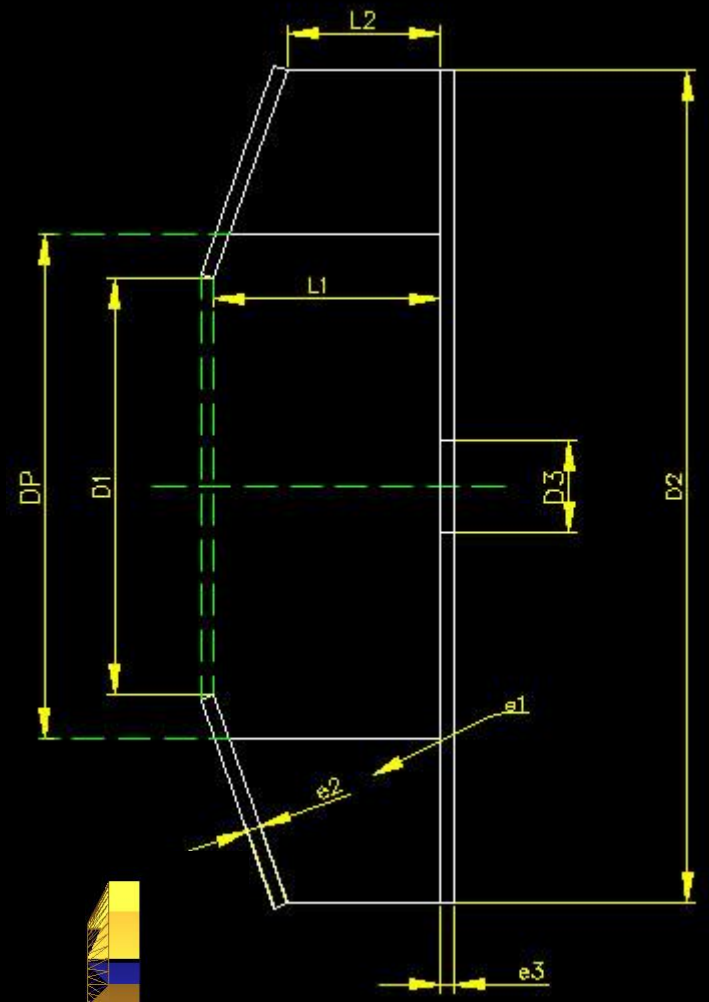



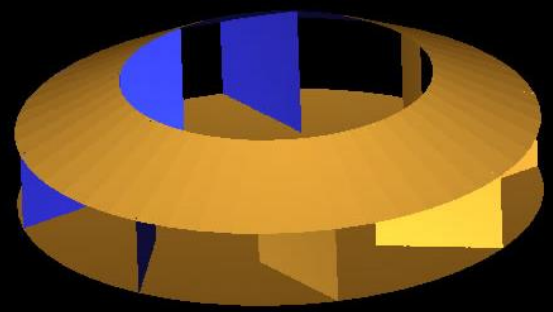


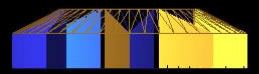
# 160 - Rotor de pás retas ☆

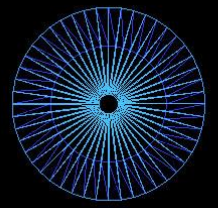
| | |
|---|---|
| D1 | 600 |
| D2 | 1000 |
| D3 | 80 |
| DP | 650 |
| Ang | 25 |
| L1 | 250 |
| L2 | 150 |
| NP | 8 |
| N div | 16 ... |
| Qtd | 1 |
| Calcular 3D | Sim ▾ |
| e1 | 12,7 (Aço) ... |
| e2 | 12,7 (Aço) ... |
| e3 | 12,7 (Aço) ... |

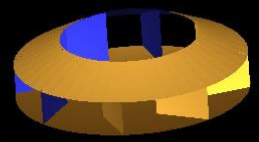




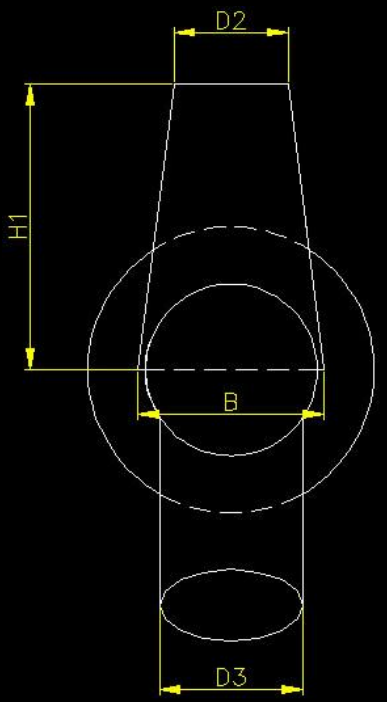


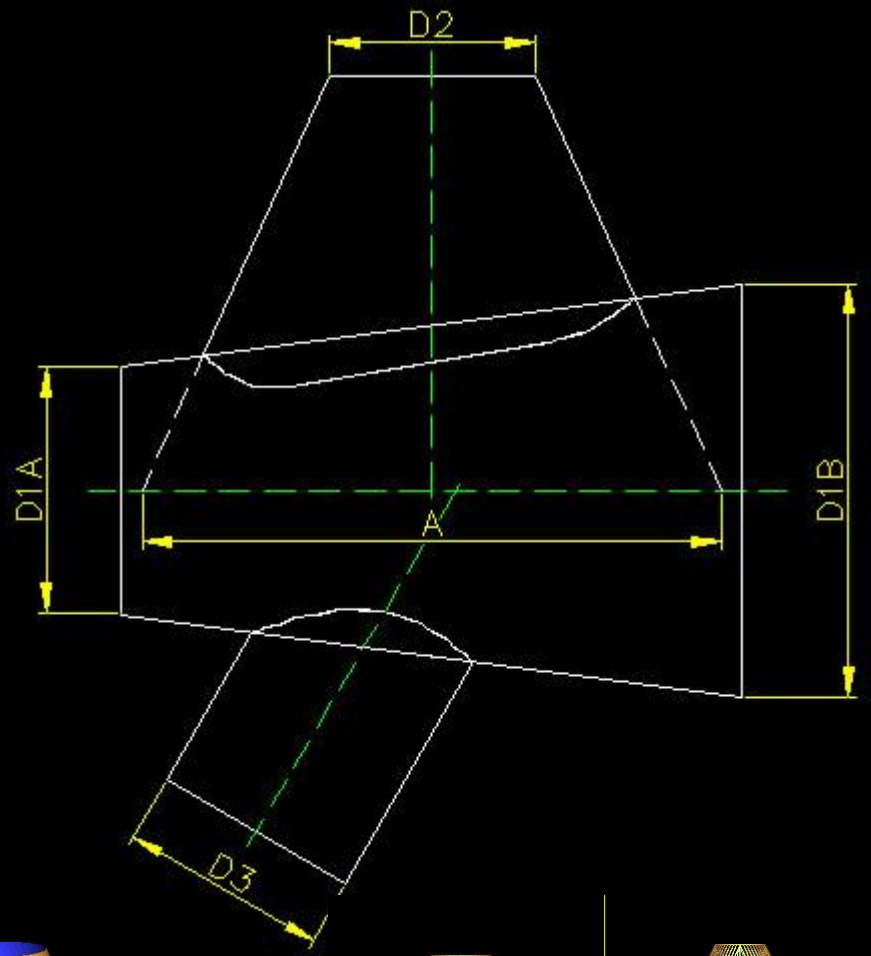


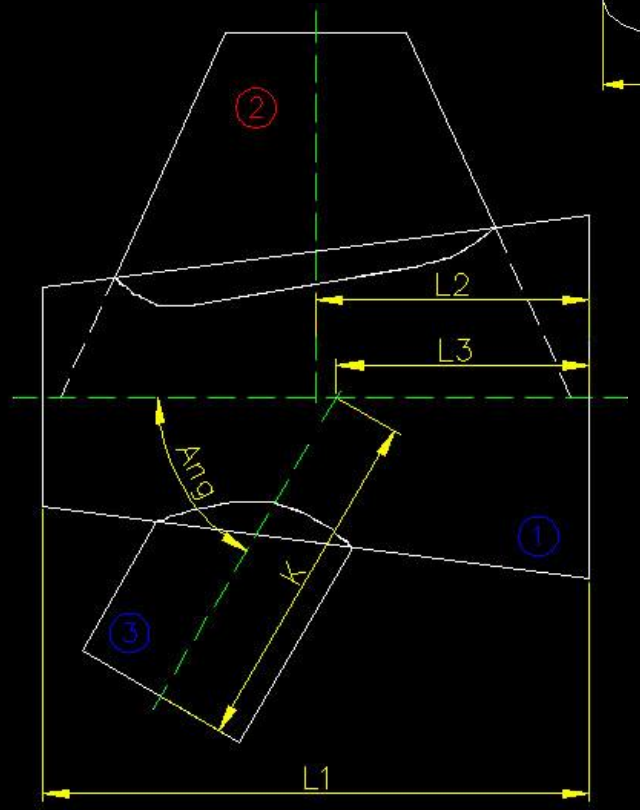
# 161 - Dupla Intersecção em Cone 2

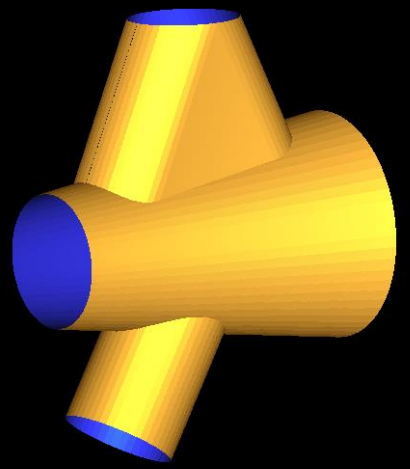
| | |
|---|---|
| D1A | 1000 |
| D1B | 600 |
| D2 | 500 |
| D3 | 500 |
| A | 1400 |
| L1 | 1500 |
| L2 | 750 |
| L3 | 700 |
| Ang | 60 |
| K | 950 |
| H1 | 1000 |
| B | 500 |
| N div1 | 32 |
| N div2 | 16 |
| N div3 | 16 |

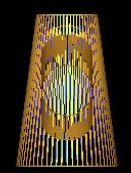
| | |
|---|---|
| Qtd | 1 |
| Calcular 3D | Sim |
| Método | M+M |
| e1 | 12,7 (Aço) |
| e2 | 12,7 (Aço) |
| e3 | 12,7 (Aço) |

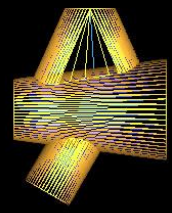


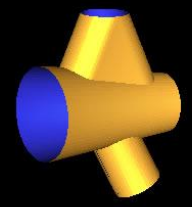





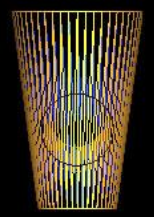


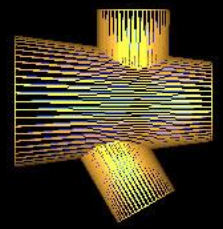


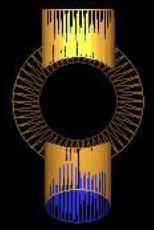
# 162 - Dupla Intersecção em Cone 3

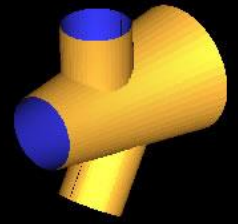
| | |
|---|---|
| D1A | 600 |
| D1B | 1000 |
| D2 | 550 |
| D3 | 500 |
| L2 | 600 |
| L3 | 500 |
| Ang1 | 90 |
| Ang2 | 60 |
| L1 | 1500 |
| H1 | 700 |
| H2 | 800 |
| N div1 | 32 |
| N div2 | 16 |
| N div3 | 16 |

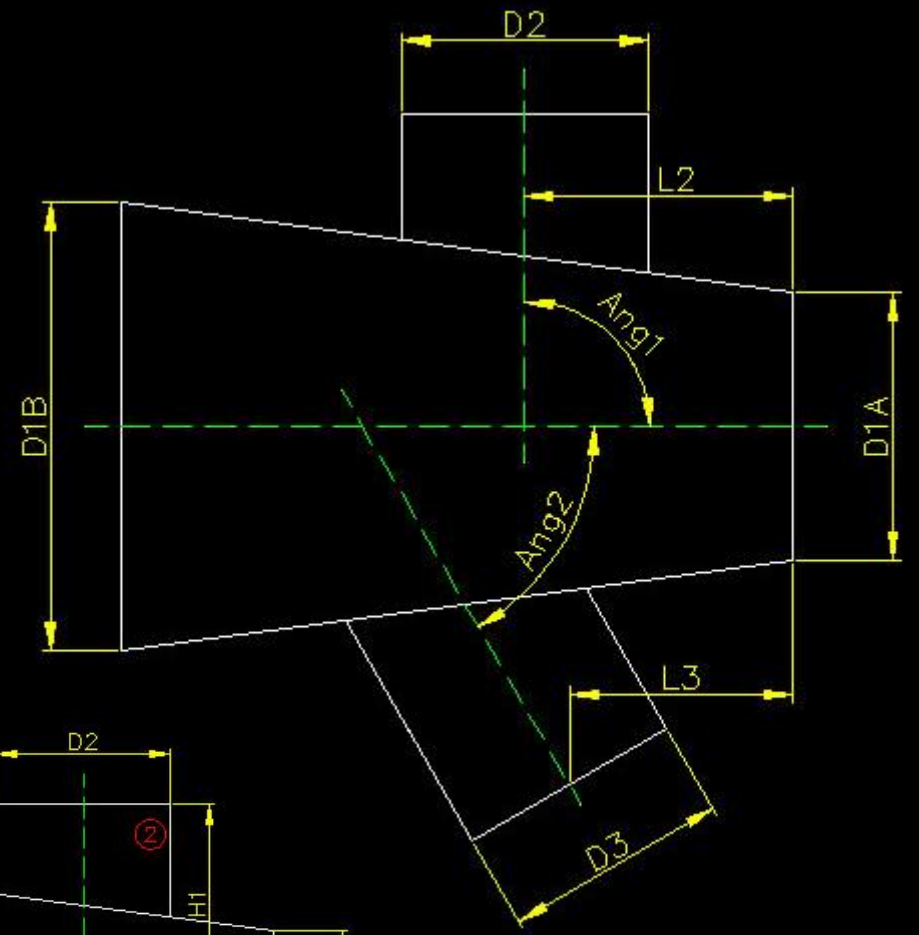
| | |
|---|---|
| Qtd | 1 |
| Calcular 3D | Sim |
| Método | M+M |
| e1 | 12,7 (Aço) |
| e2 | 12,7 (Aço) |
| e3 | 12,7 (Aço) |

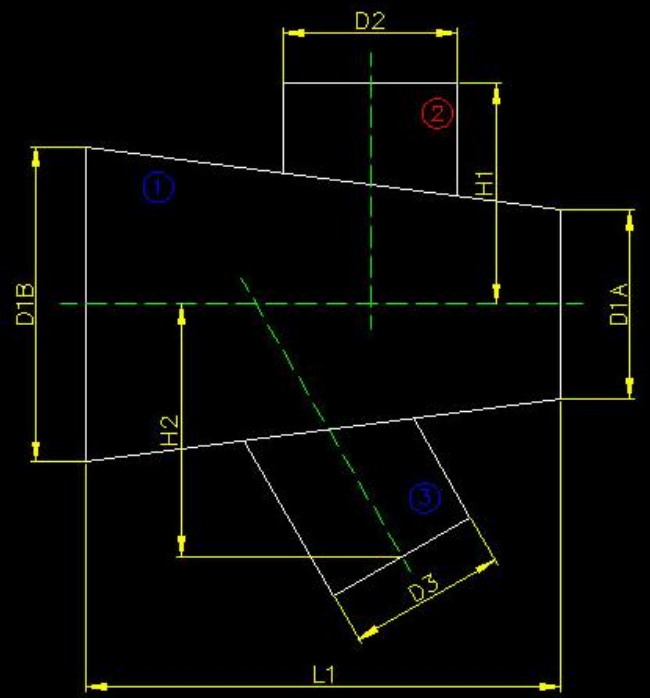


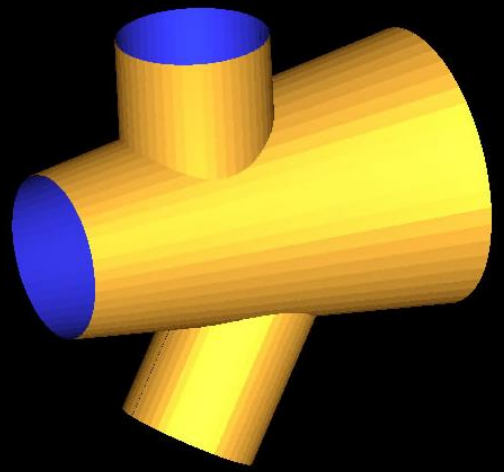






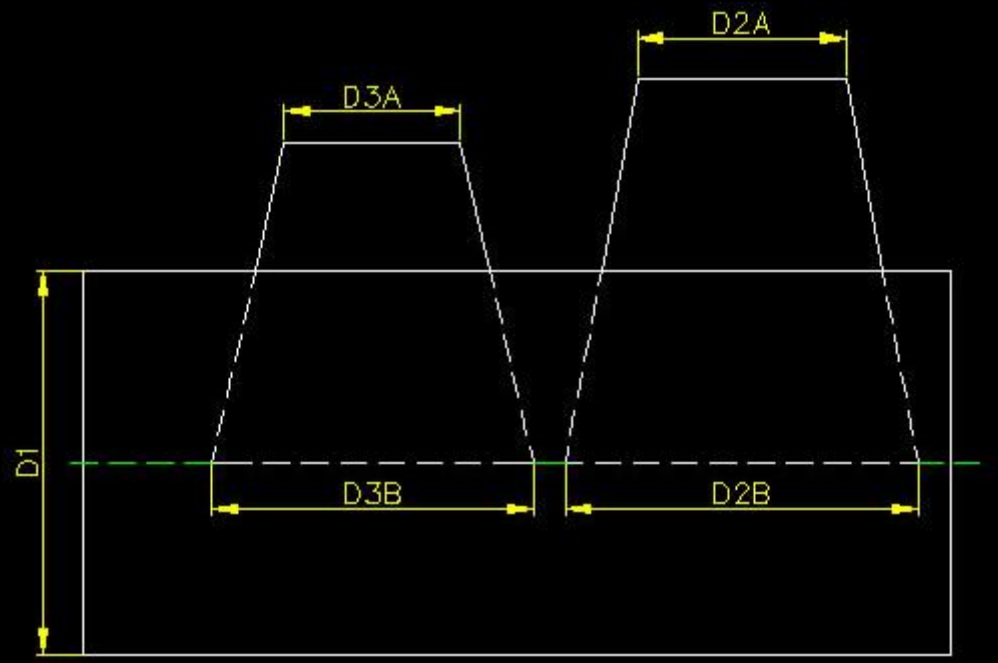


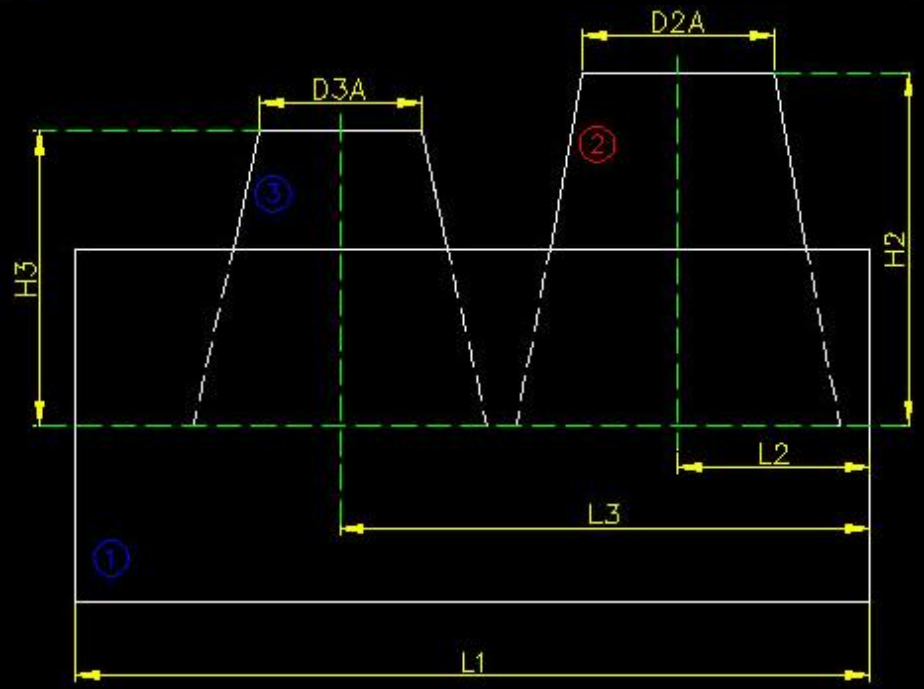



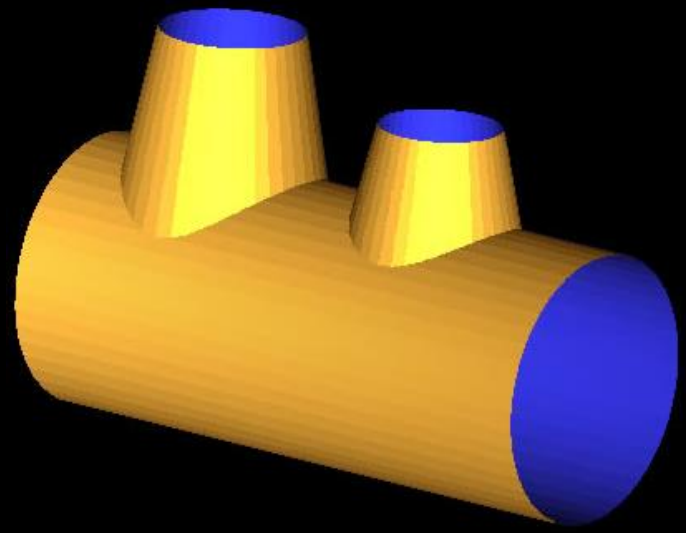



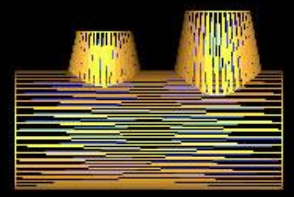
# 166 - Intersecção de Cones em Cilindro

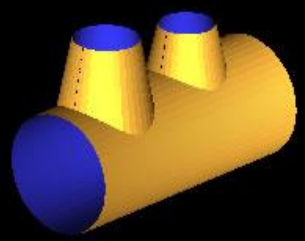
| | |
|---|---|
| D1 | 1200 |
| D2A | 650 |
| D2B | 1100 |
| D3A | 550 |
| D3B | 1000 |
| L1 | 2700 |
| L2 | 650 |
| L3 | 1800 |
| H2 | 1200 |
| H3 | 1000 |
| Ndiv1 | 32 |
| Ndiv2 | 32 |
| Ndiv3 | 32 |
| Qtd | 1 |
| Calcular 3D | Sim |
| Método | M+M |
| e1 | 12,7 (Aço) |
| e2 | 12,7 (Aço) |
| e3 | 12,7 (Aço) |



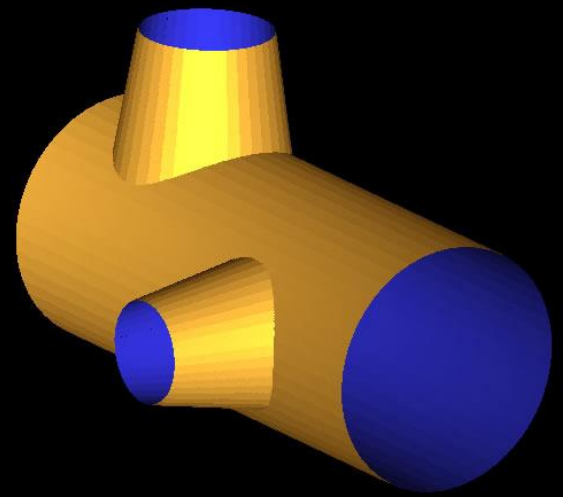


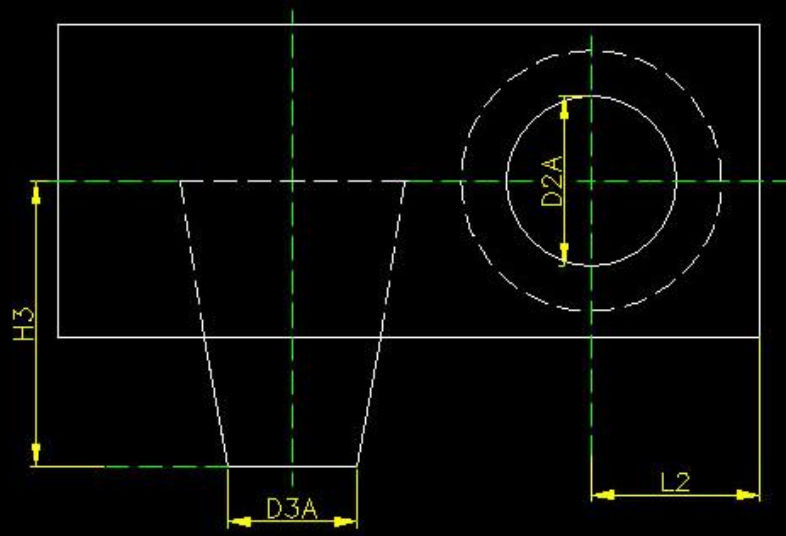


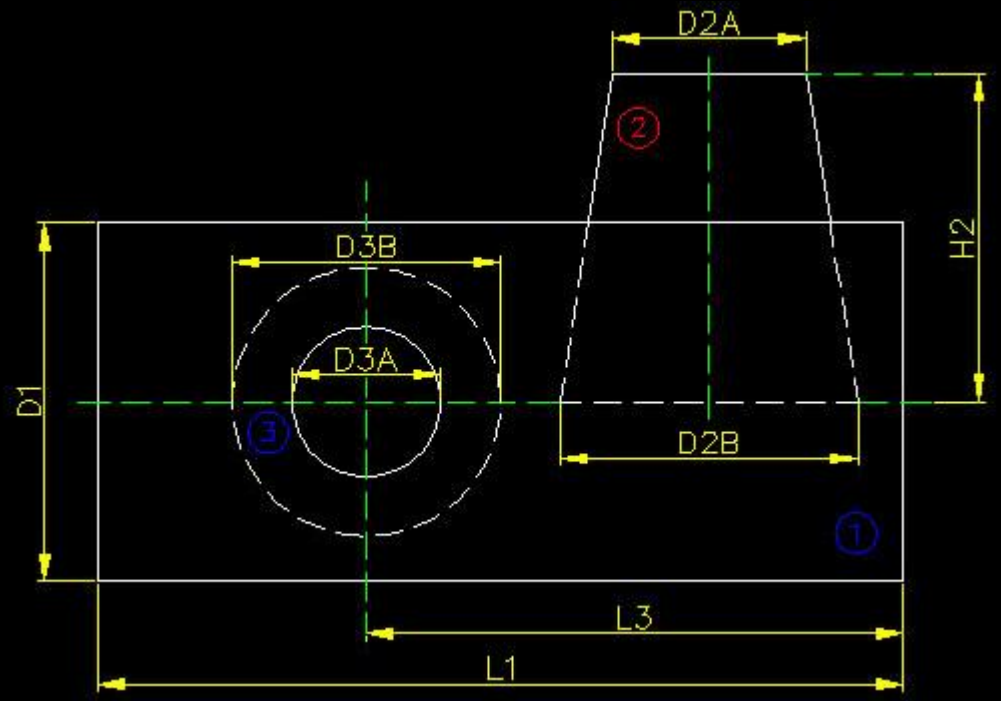
# 167 - Intersecção de Cones em Cilindro 2

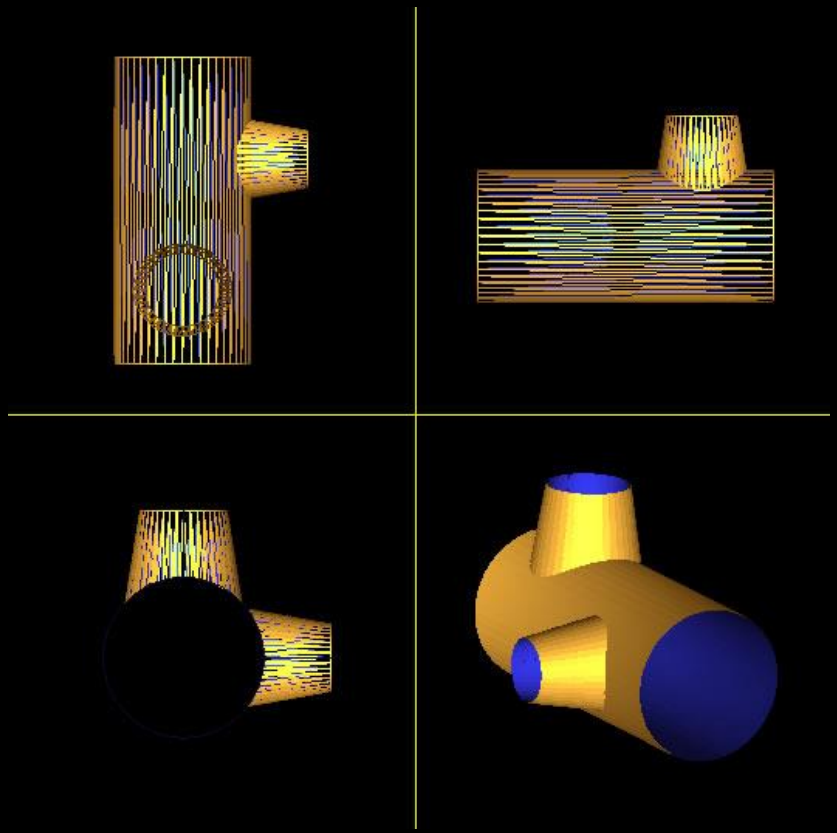
| | |
|---|---|
| D1 | 1200 |
| D2A | 650 |
| D2B | 1000 |
| D3A | 500 |
| D3B | 900 |
| L1 | 2700 |
| L3 | 1800 |
| H2 | 1100 |
| L2 | 650 |
| H3 | 1100 |
| Ndiv1 | 32 |
| Ndiv2 | 32 |
| Ndiv3 | 32 |

| | |
|---|---|
| Qtd | 1 |
| Calcular 3D | Sim |
| Método | M+M |
| e1 | 12,7 (Aço) |
| e2 | 12,7 (Aço) |
| e3 | 12,7 (Aço) |





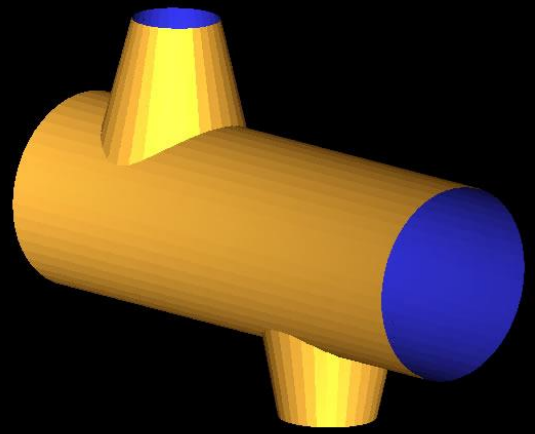



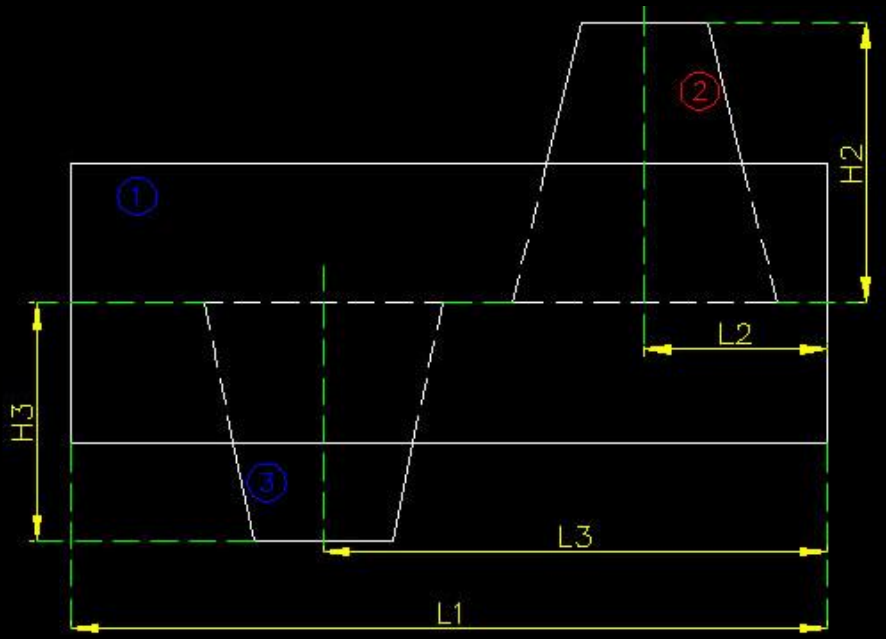



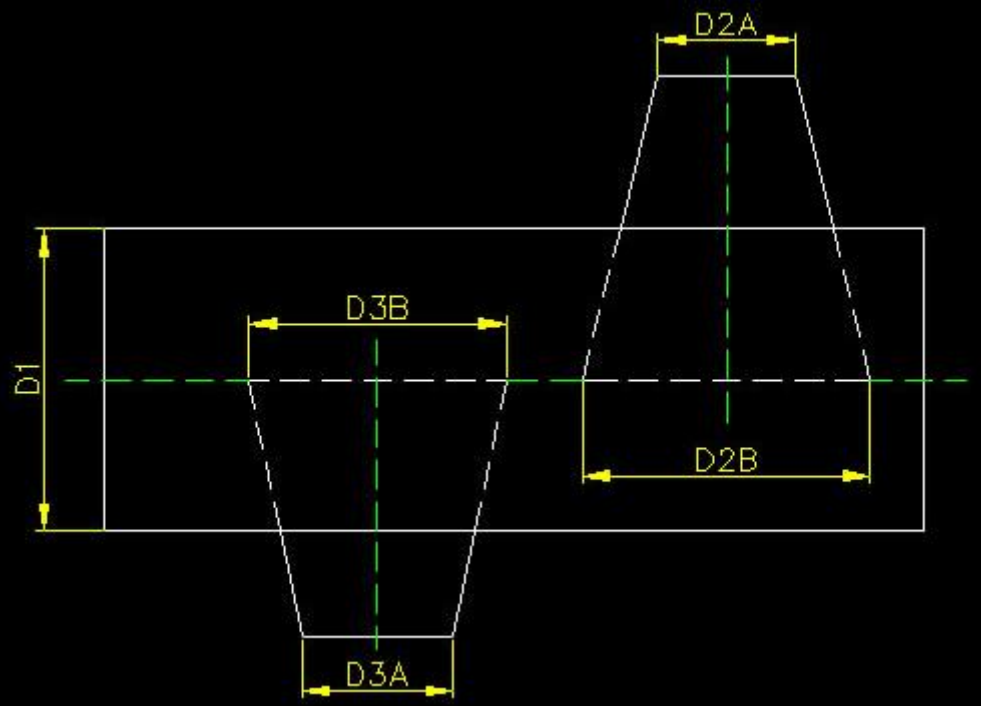
# 168 - Intersecção de Cones em Cilindro 3

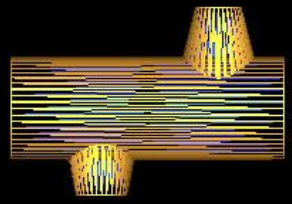
| | |
|---|---|
| D1 | 1000 |
| D2A | 450 |
| D2B | 950 |
| D3A | 500 |
| D3B | 850 |
| L1 | 2700 |
| L2 | 650 |
| L3 | 1800 |
| H2 | 1000 |
| H3 | 850 |
| Ndiv1 | 32 |
| Ndiv2 | 32 |
| Ndiv3 | 32 |

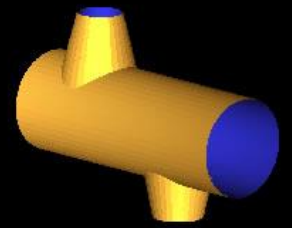
| | |
|---|---|
| Qtd | 1 |
| Calcular 3D | Sim |
| Método | M+M |
| e1 | 12,7 (Aço) |
| e2 | 12,7 (Aço) |
| e3 | 12,7 (Aço) |





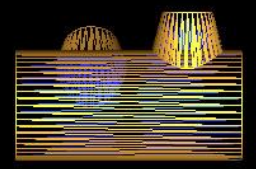


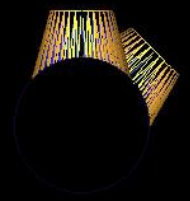


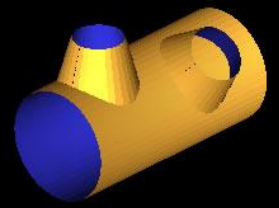
# 169 - Intersecção de Cones/Cilindro em ângulo

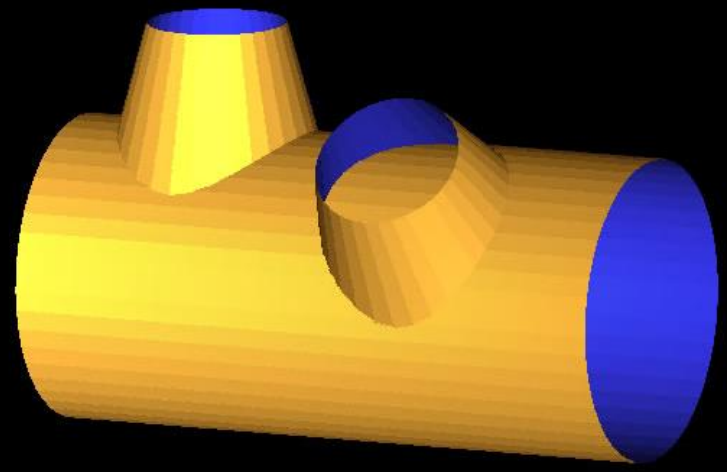
| | |
|---|---|
| D1 | 1300 |
| D2A | 600 |
| D2B | 1200 |
| D3A | 650 |
| L1 | 2700 |
| L2 | 650 |
| L3 | 1800 |
| D3B | 1200 |
| H2 | 1100 |
| A | 1000 |
| Ang | 45 |
| Ndiv1 | 32 |
| Ndiv2 | 32 |
| Ndiv3 | 32 |

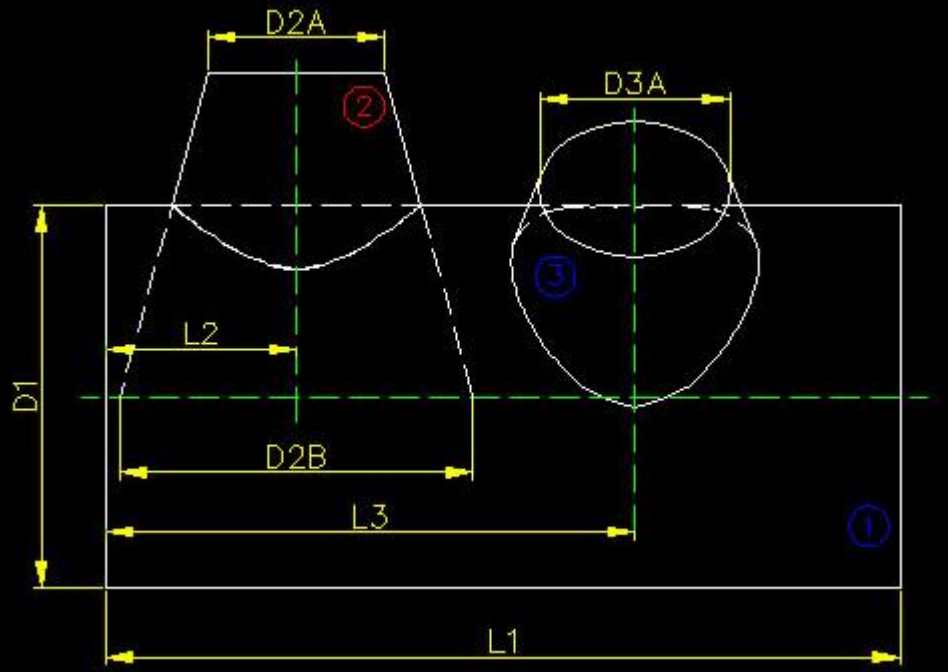
| | |
|---|---|
| Qtd | 1 |
| Calcular 3D | Sim |
| Método | M+M |
| e1 | 12,7 (Aço) |
| e2 | 12,7 (Aço) |
| e3 | 12,7 (Aço) |

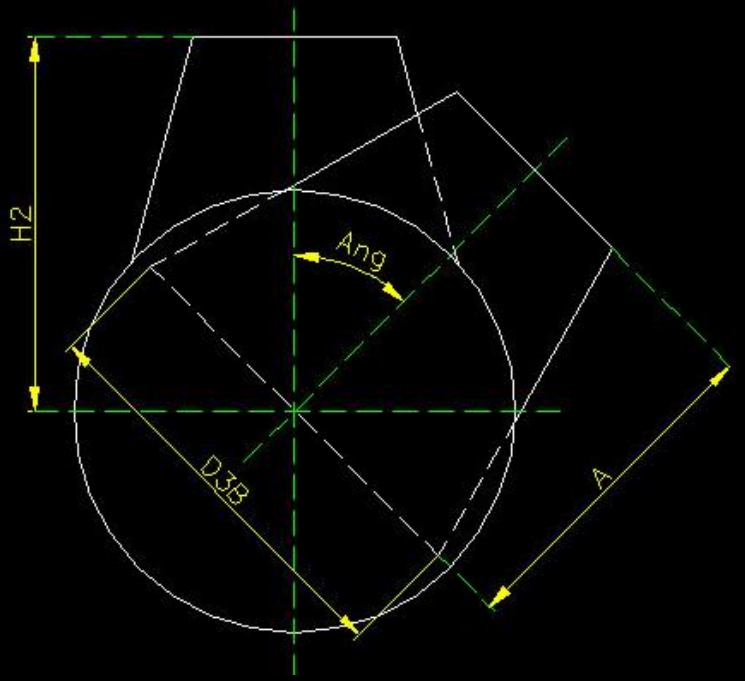






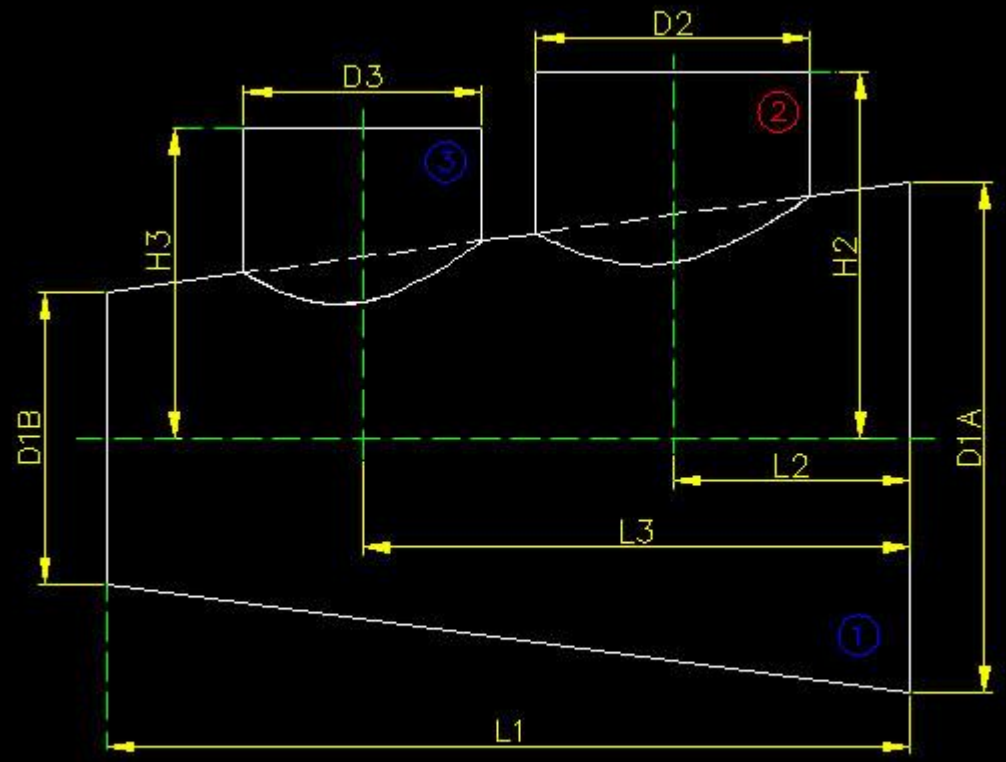


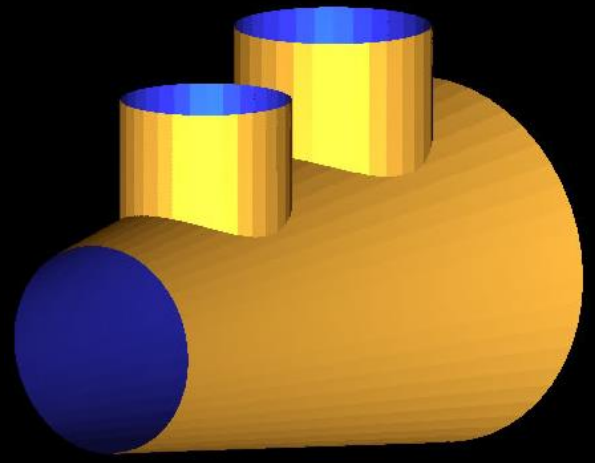


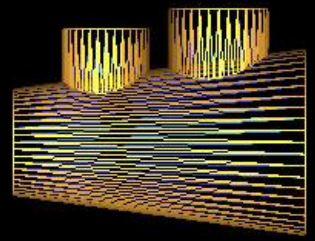



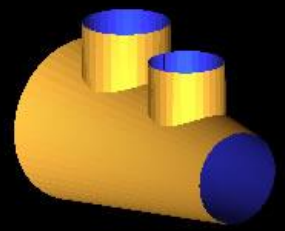
# 170 - Intersecção de Cilindros em Cone

| | |
|---|---|
| D1A | 1400 |
| D1B | 800 |
| D2 | 750 |
| D3 | 650 |
| L1 | 2200 |
| L2 | 650 |
| L3 | 1500 |
| H2 | 1000 |
| H3 | 850 |
| Ndiv1 | 32 |
| Ndiv2 | 32 |
| Ndiv3 | 32 |
| Qtd | 1 |
| Calcular 3D | Sim |
| Método | M+M |
| e1 | 12,7 (Aço) |
| e2 | 12,7 (Aço) |
| e3 | 12,7 (Aço) |



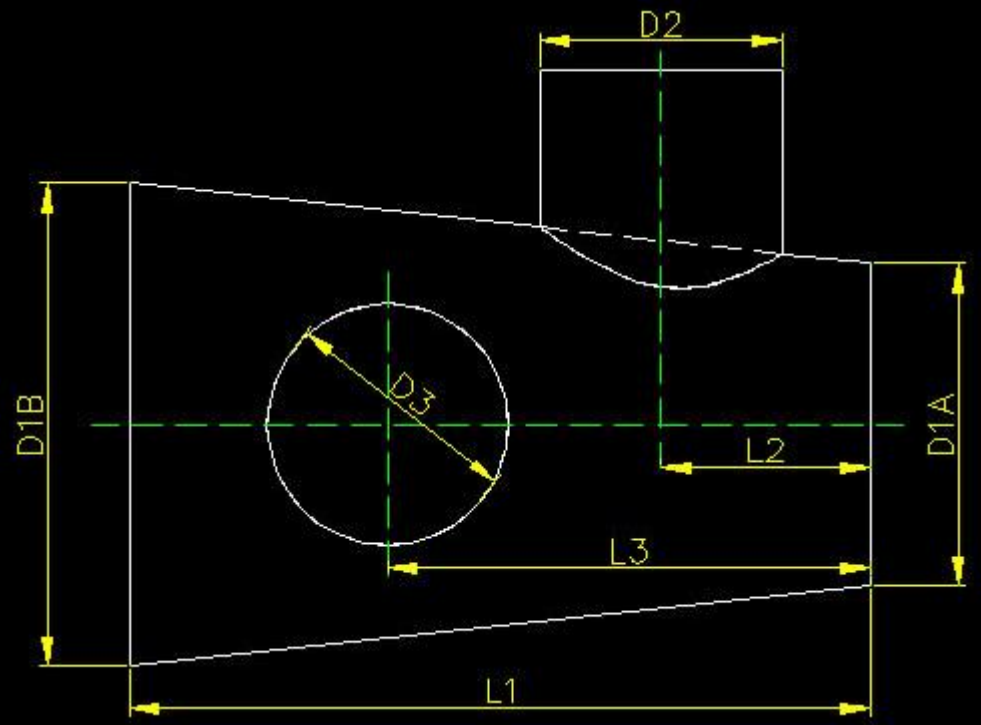



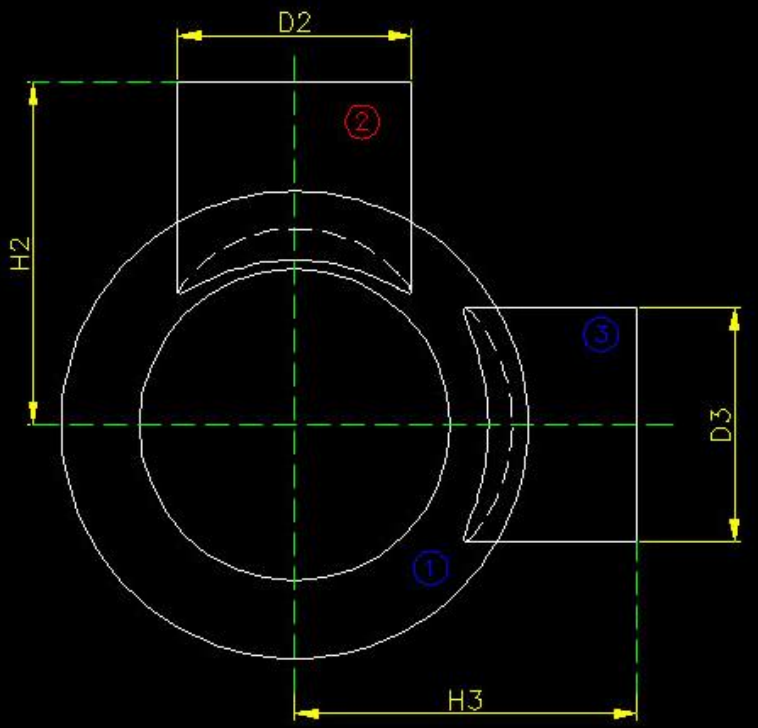


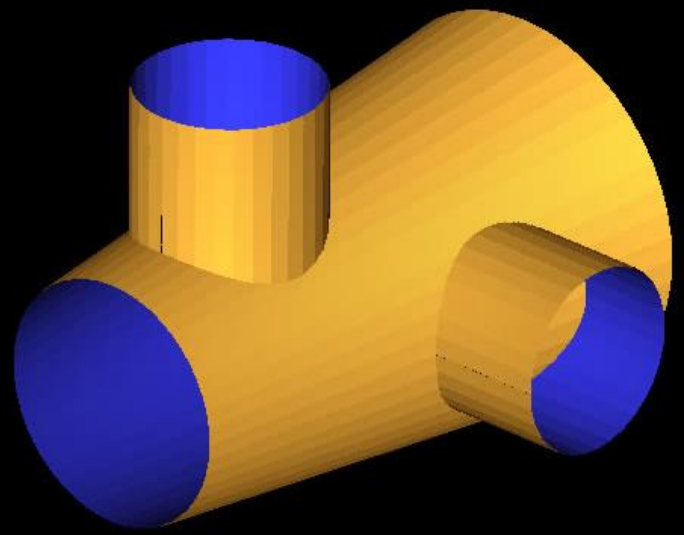


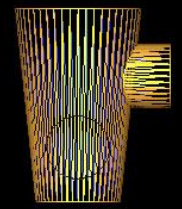
# 171 - Intersecção de Cilindros em Cone 2

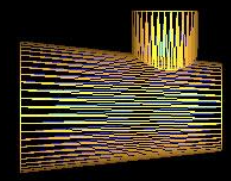
| | |
|---|---|
| D1A | 1000 |
| D1B | 1500 |
| D2 | 750 |
| D3 | 750 |
| L1 | 2300 |
| L2 | 650 |
| L3 | 1500 |
| H2 | 1100 |
| H3 | 1100 |
| Ndiv1 | 32 ... |
| Ndiv2 | 32 ... |
| Ndiv3 | 32 ... |
| Qtd | 1 |
| Calcular 3D | Sim |
| Método | M+M ... |
| e1 | 12,7 (Aço) ... |
| e2 | 12,7 (Aço) ... |
| e3 | 12,7 (Aço) ... |

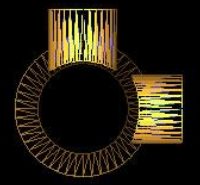


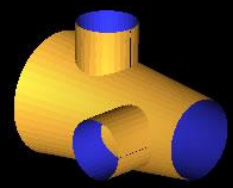





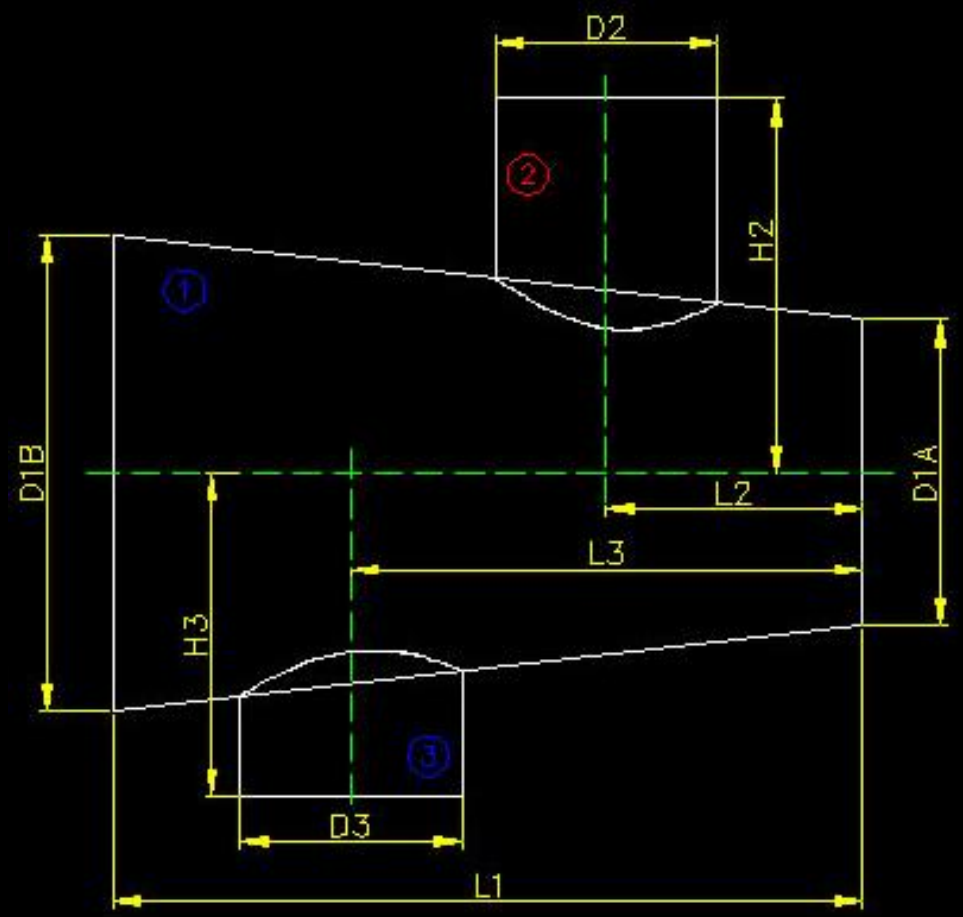


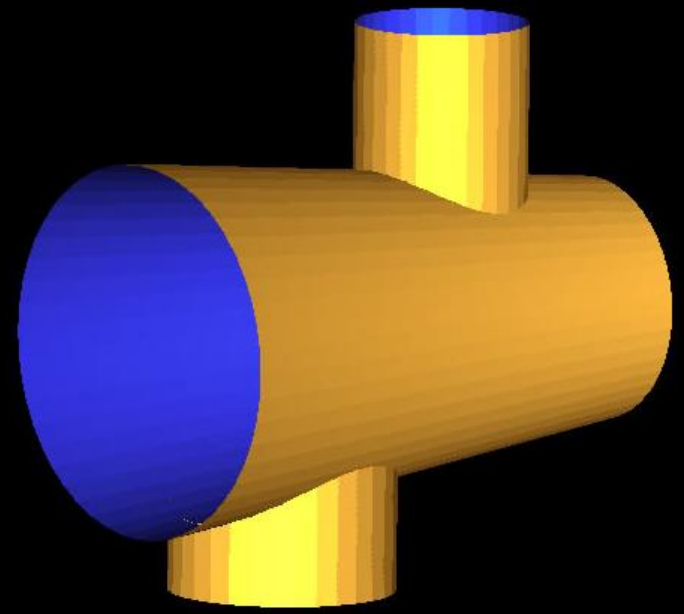


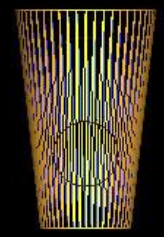


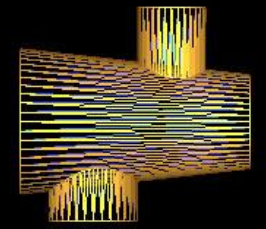
# 172 - Intersecção de Cilindros em Cone 3

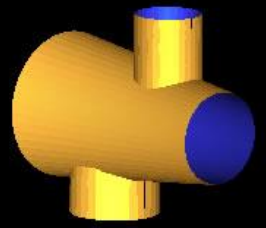
| | |
|---|---|
| D1A | 900 |
| D1B | 1400 |
| D2 | 650 |
| D3 | 650 |
| L1 | 2200 |
| L2 | 750 |
| L3 | 1500 |
| H2 | 1100 |
| H3 | 950 |
| Ndiv1 | 32 ... |
| Ndiv2 | 32 ... |
| Ndiv3 | 32 ... |
| Qtd | 1 |
| Calcular 3D | Sim |
| Método | M+M ... |
| e1 | 12,7 (Aço) ... |
| e2 | 12,7 (Aço) ... |
| e3 | 12,7 (Aço) ... |



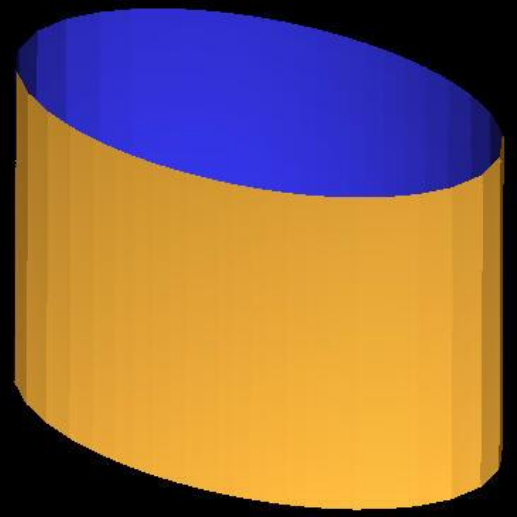


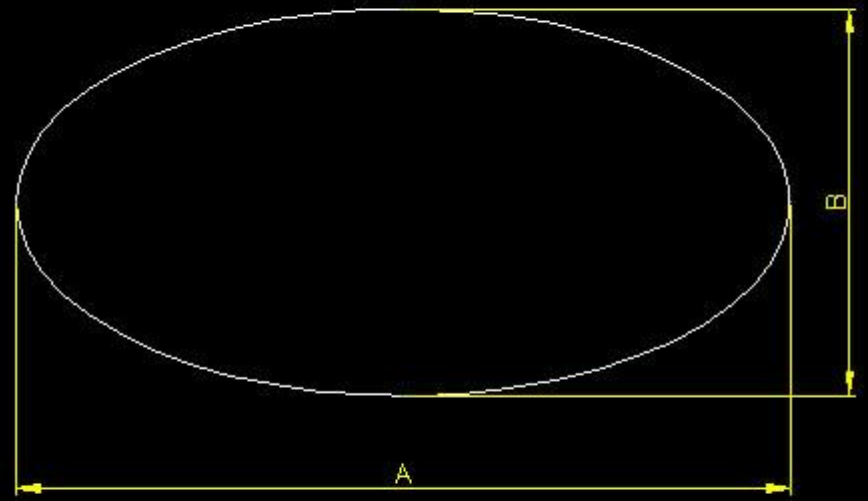


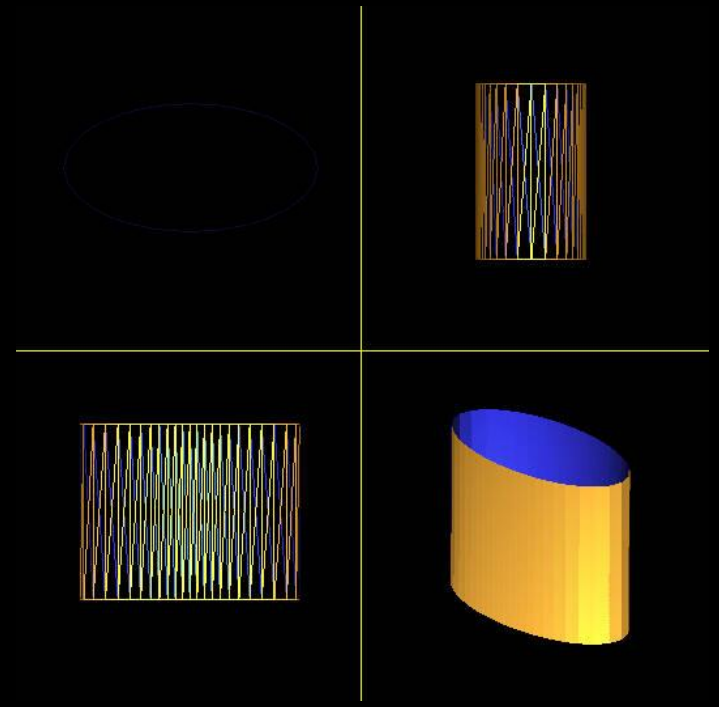


# 178 - Tubo elíptico ☆

| | |
|---|---|
| **A** | 1000 |
| **B** | 500 |
| **H** | 800 |
| **N div** | 32 ... |
| **Qtd** | 1 |
| **Calcular 3D** | Sim |
| **e** | 1 (Aço) ... |

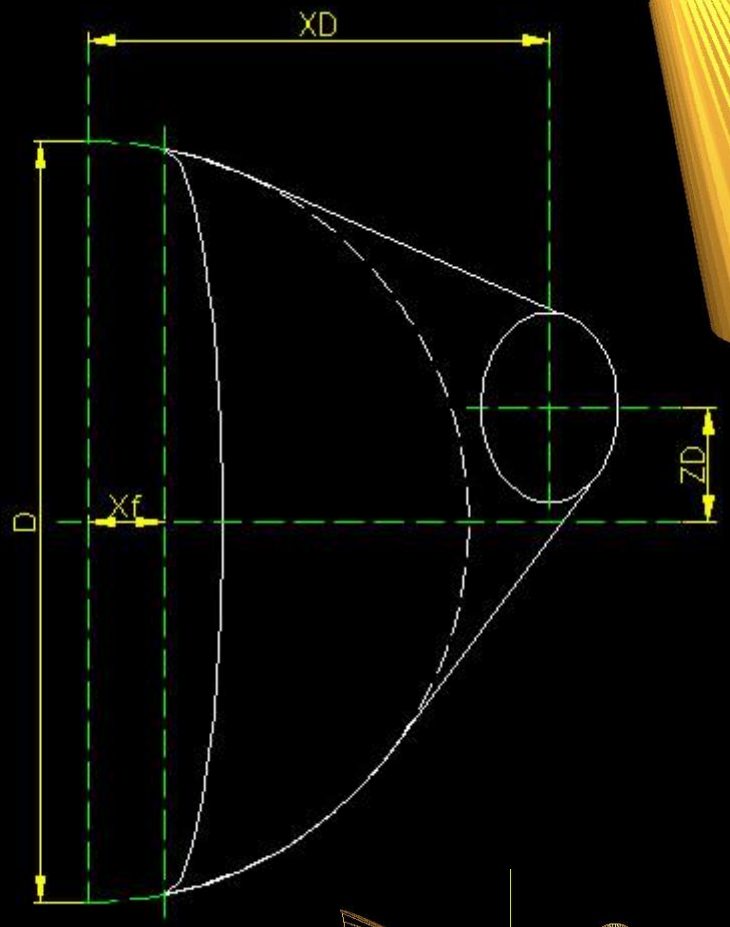


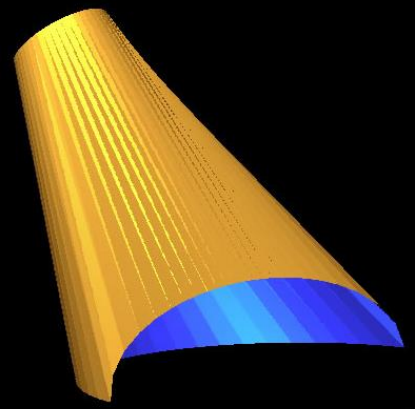


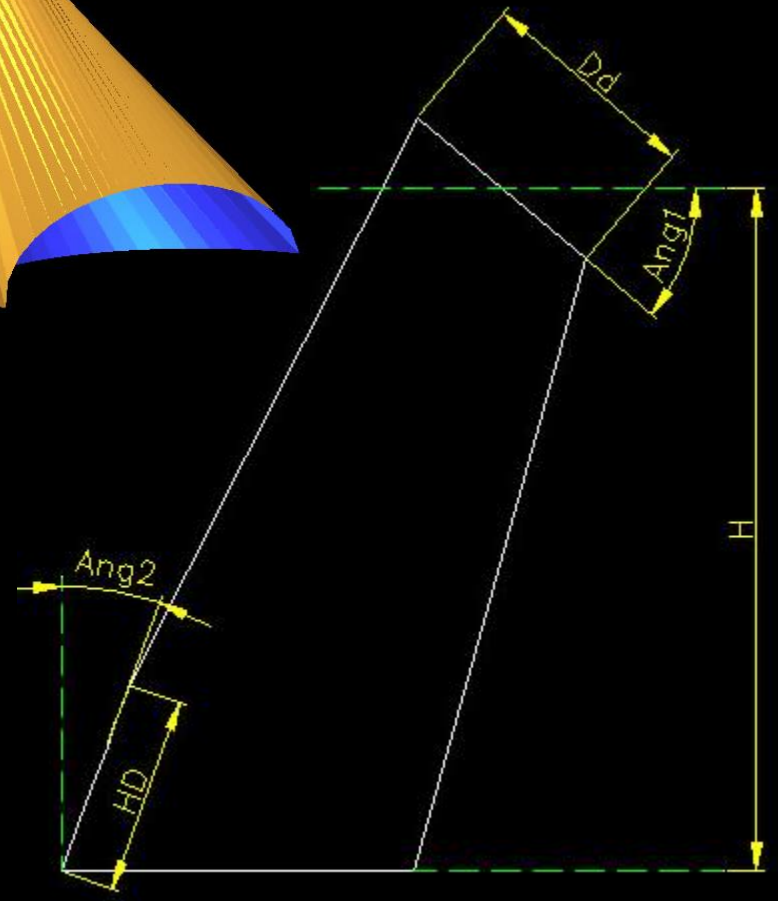



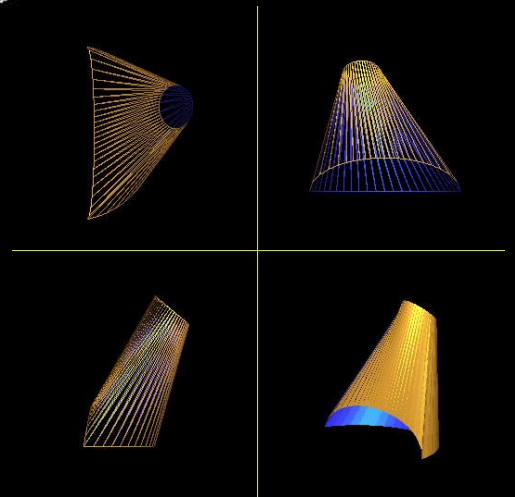
# 182 - Transição lateral da trifurcação

| | |
|---|---|
| D | 2000 |
| XD | 1200 |
| ZD | 300 |
| Xf | 200 |
| Dd | 500 |
| HD | 450 |
| H | 1550 |
| Ang1 | 40 |
| Ang2 | 10 |
| N div | 32 ... |
| Qtd | 1 |
| Calcular 3D | Sim |
| e | 1 (Aço) ... |



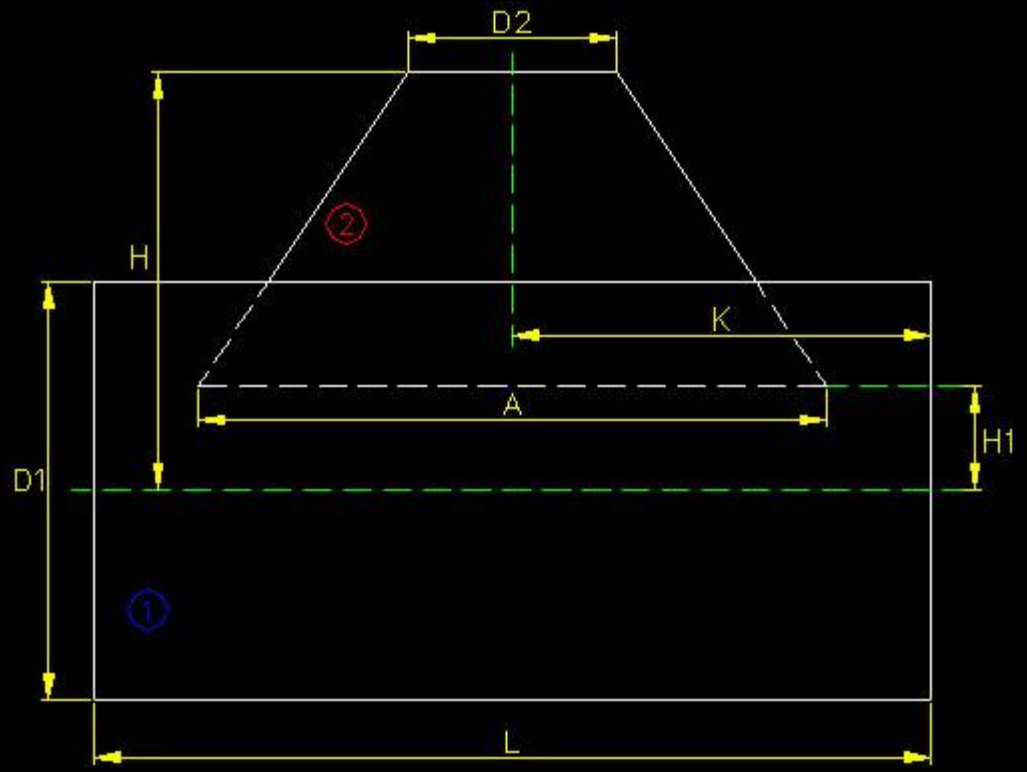



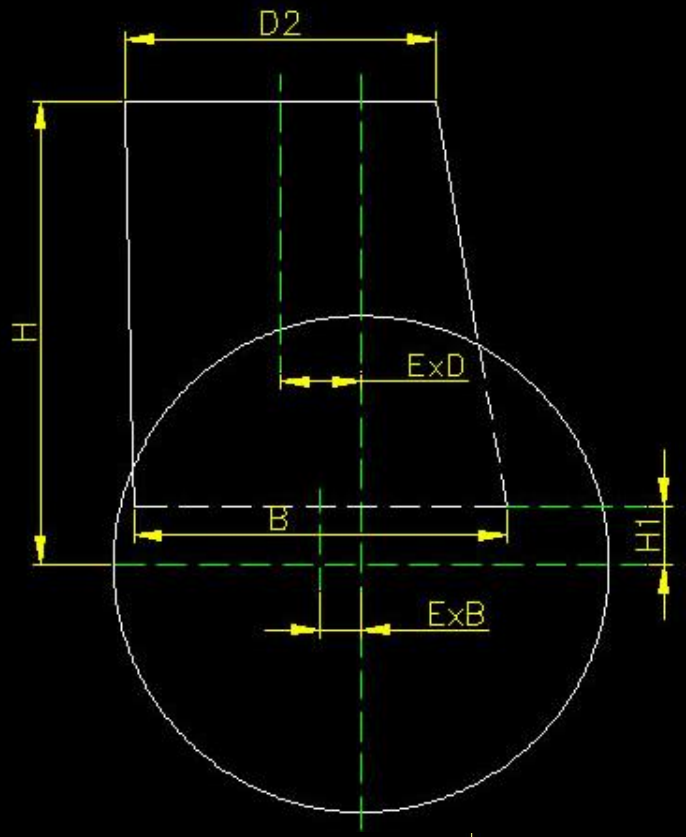


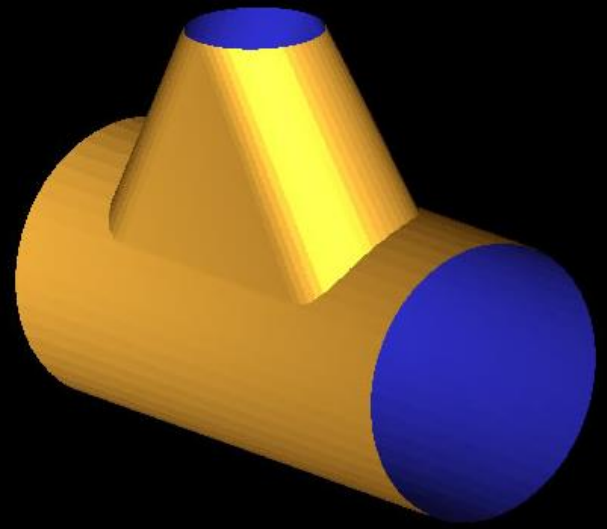



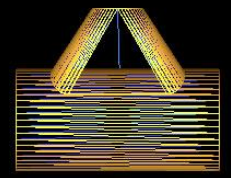
# 183 - Intersecção Cilindro Transição Cil/Oval Exc.

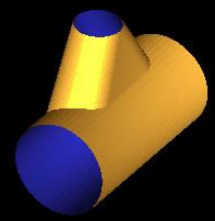
| | |
|---|---|
| D1 | 1000 |
| D2 | 500 |
| H | 1100 |
| H1 | 100 |
| K | 1000 |
| A | 1800 |
| B | 650 |
| L | 2000 |
| ExD | 200 |
| ExB | 100 |
| Ndiv1 | 32 |
| Ndiv2 | 16 |
| Qtd | 1 |
| Calcular | 1+2 |
| Calcular 3D | Sim |
| Método | M+M |
| e1 | 10 (Aço) |
| e2 | 8 (Aço) |



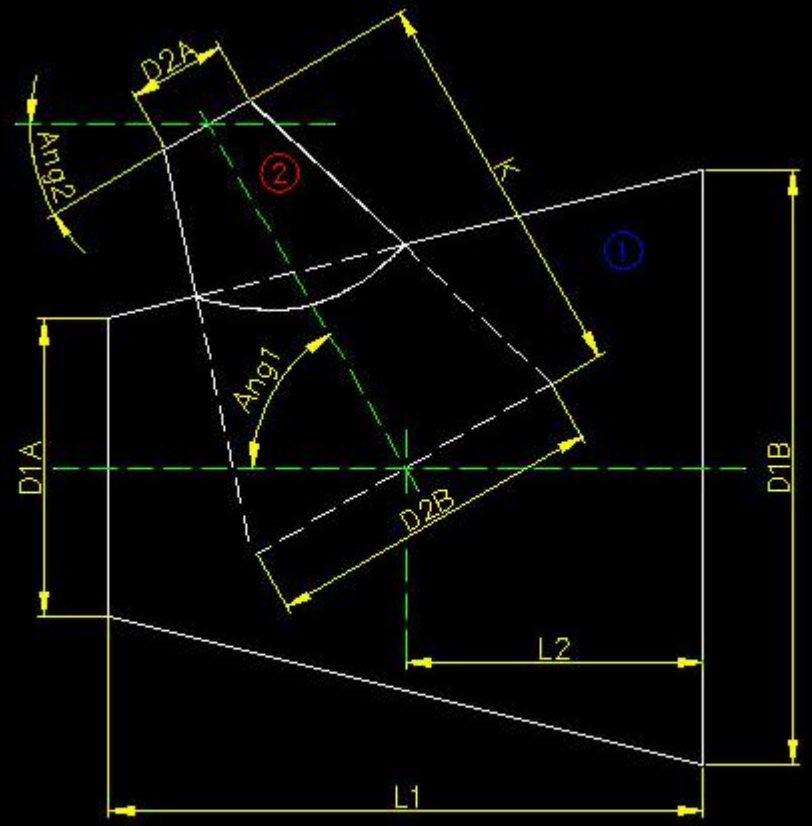



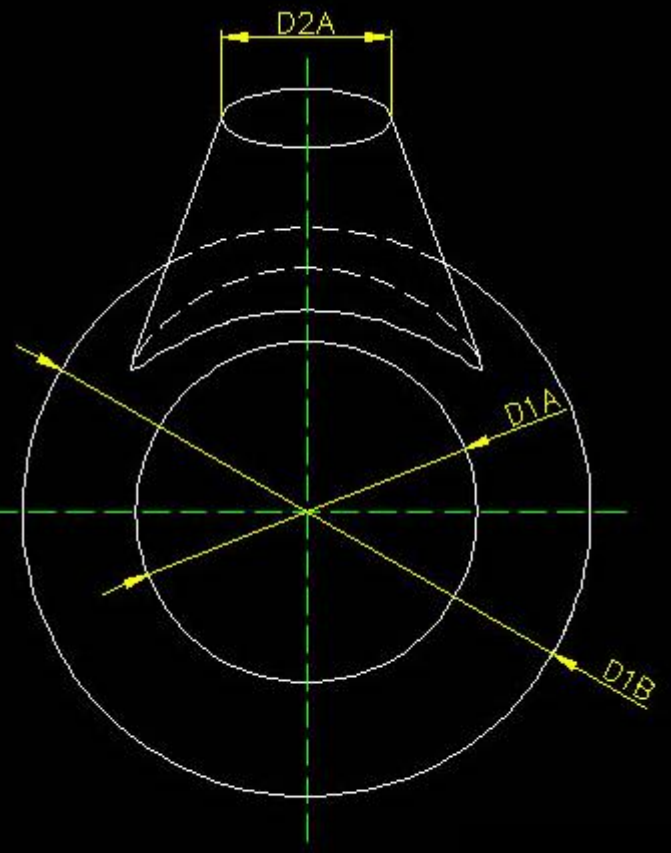


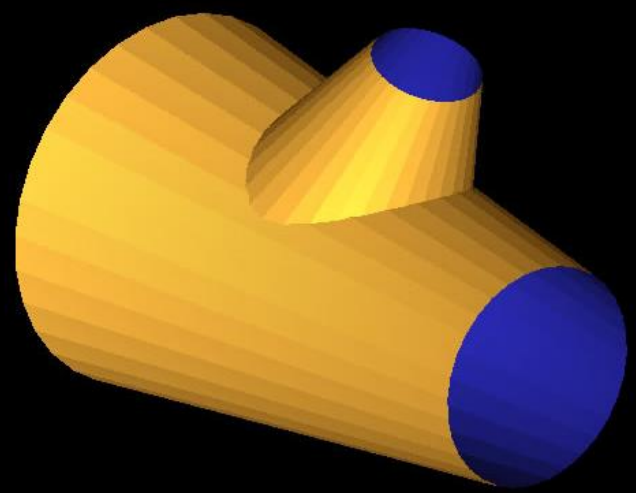


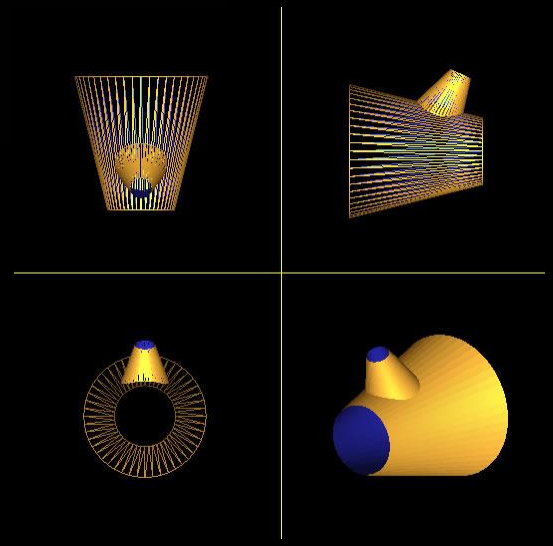
# 184 - Intersecção Cone/Cone Inclinada

| | |
|---|---|
| D1A | 600 |
| D1B | 1000 |
| L1 | 1500 |
| L2 | 600 |
| Ang1 | 60 |
| D2A | 200 |
| D2B | 400 |
| K | 800 |
| Ang2 | 20 |
| Ndiv1 | 32 |
| Ndiv2 | 16 |
| Qtd | 1 |
| Calcular | 1+2 |
| Calcular 3D | Sim |
| Método | M+M |
| e1 | 10 (Aço) |
| e2 | 8 (Aço) |



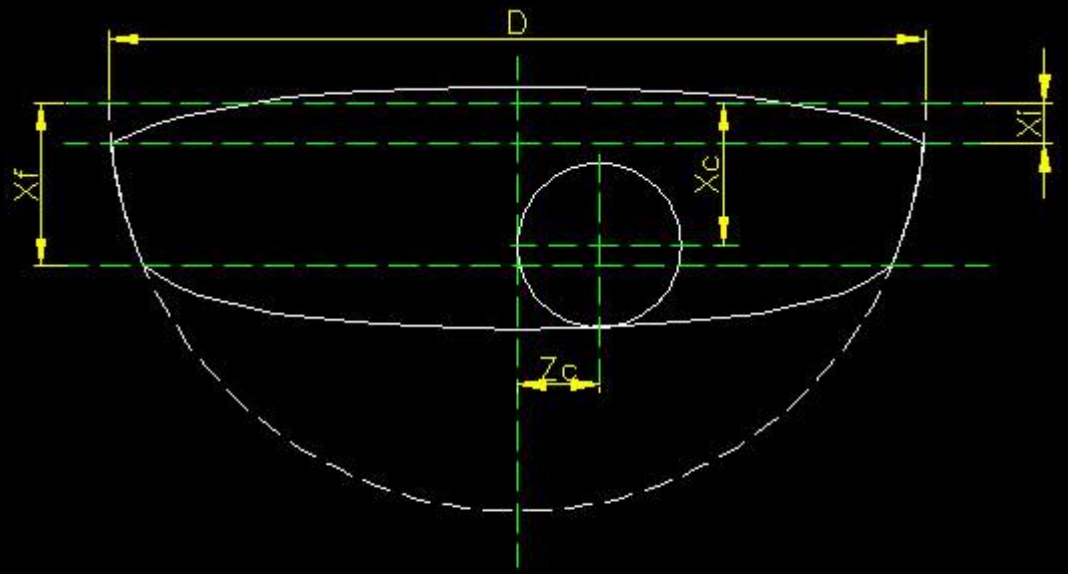



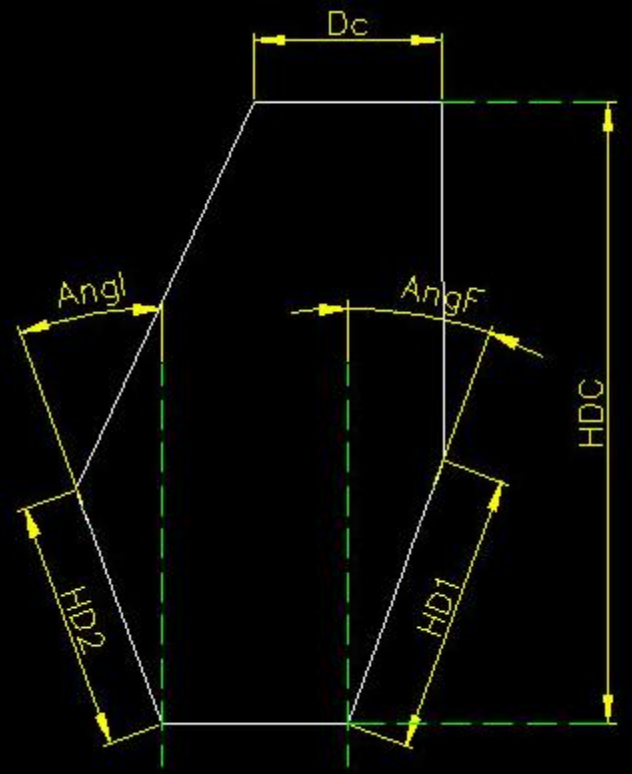



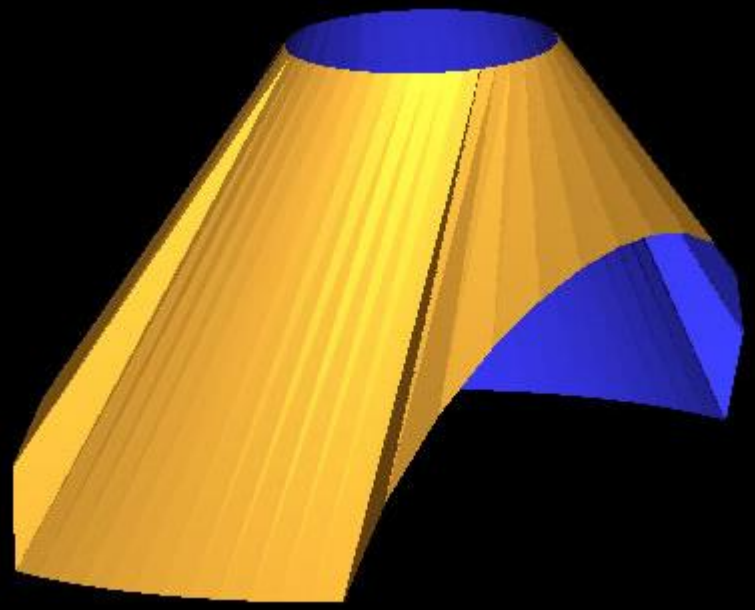


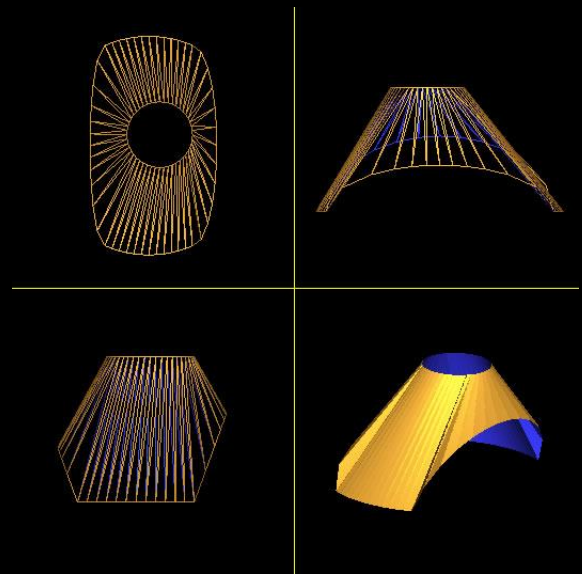
# 185 - Transição central da trifurcação

| | |
|---|---|
| D | 2000 |
| Xc | 0 |
| Zc | 0 |
| Xi | -400 |
| Xf | 400 |
| Dc | 650 |
| HD1 | 850 |
| HD2 | 850 |
| HDC | 2000 |
| Angl | 15 |
| AngF | 15 |
| N div | 32 |
| Qtd | 1 |
| Calcular 3D | Sim |
| e | 1 (Aço) |



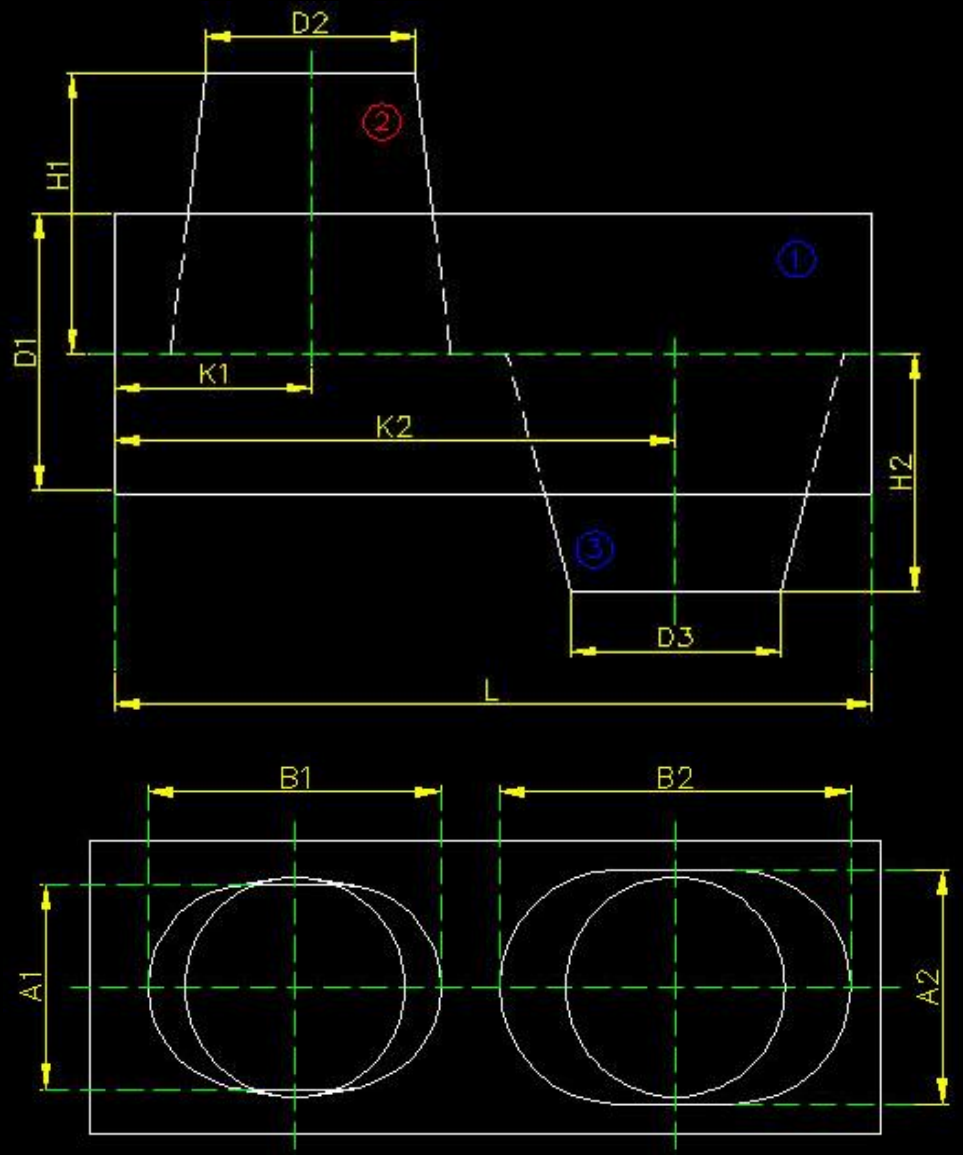



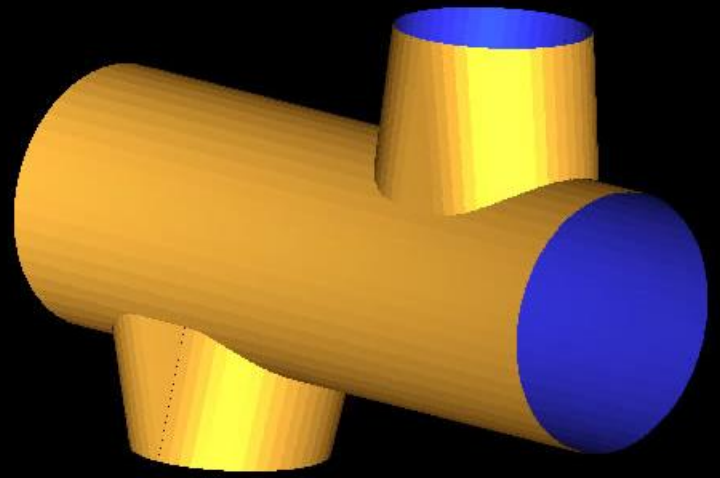



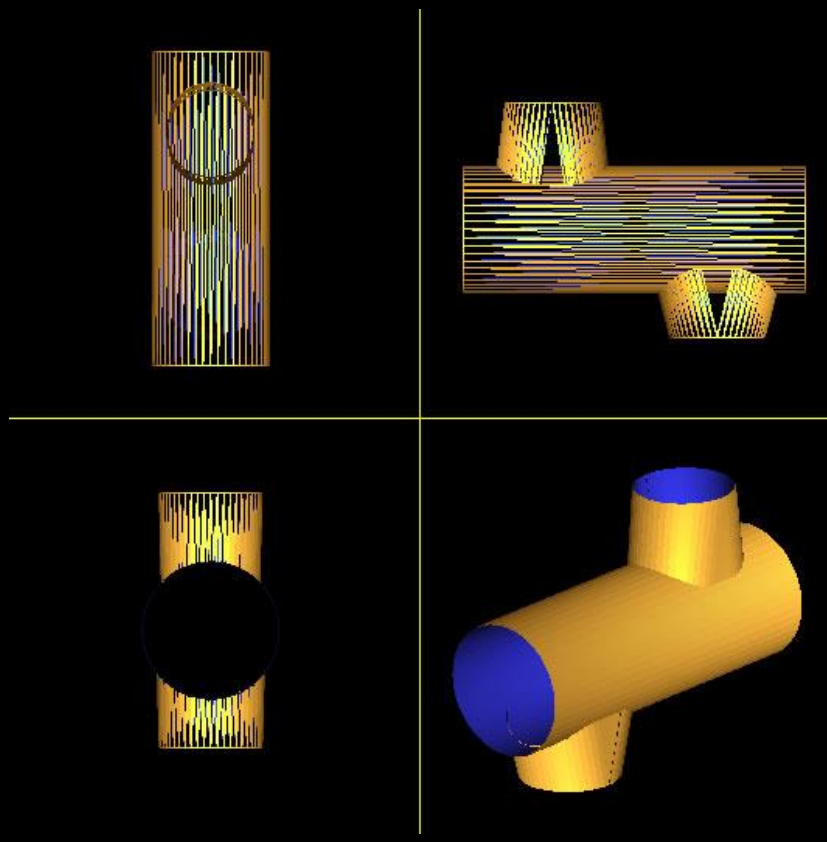


# 186 - Dupla Intersecção Cilindro/Transição Cil. Oval

| | |
|---|---|
| D1 | 1000 |
| D2 | 750 |
| D3 | 750 |
| L | 2700 |
| K1 | 1350 |
| K2 | 1350 |
| H1 | 1000 |
| H2 | 850 |
| B1 | 1500 |
| B2 | 1400 |
| A1 | 500 |
| A2 | 400 |
| Ndiv1 | 32 |
| Ndiv2 | 32 |
| Ndiv3 | 32 |
| Calcular 3D | Sim |
| Método | M+M |
| e1 | 12,7 (Aço) |
| e2 | 12,7 (Aço) |
| e3 | 12,7 (Aço) |

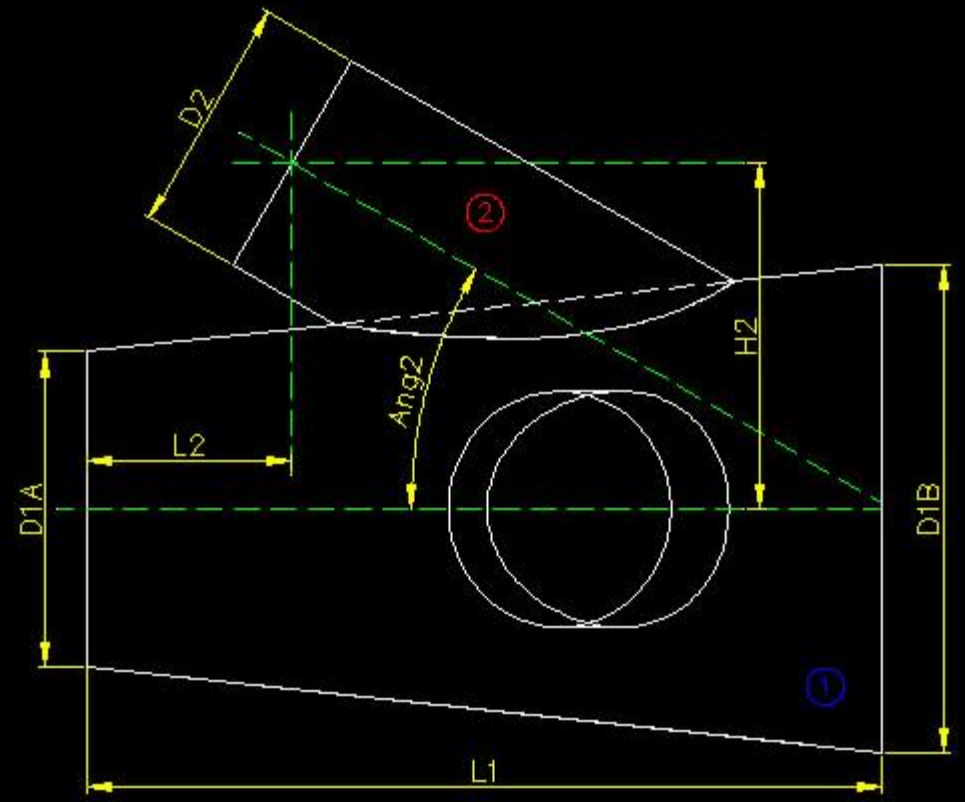


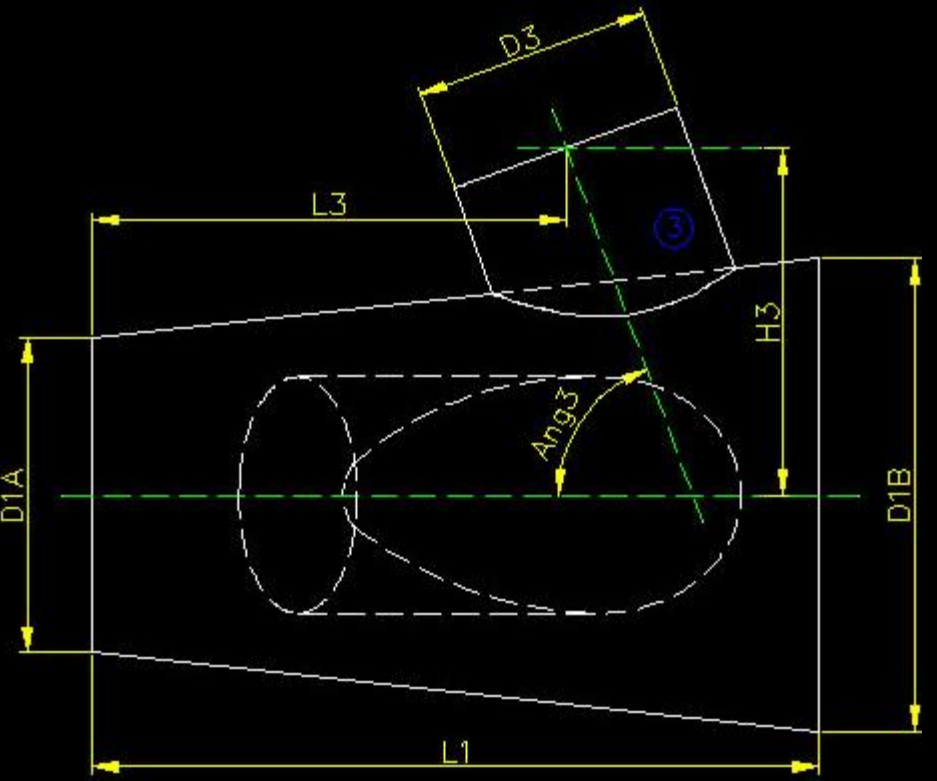



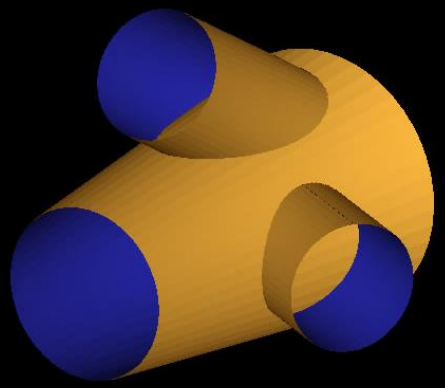


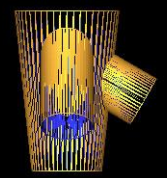
# 187 - Dupla Intersecção Cone/Cilindros Inclinados

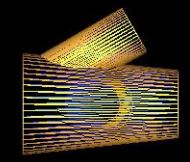
| | |
|---|---|
| D1A | 1000 |
| D1B | 1500 |
| D2 | 750 |
| L1 | 2300 |
| L2 | 650 |
| H2 | 1100 |
| Ang2 | 30 |
| D3 | 750 |
| L3 | 850 |
| H3 | 1100 |
| Ang3 | 30 |
| Ndiv1 | 32 ... |
| Ndiv2 | 32 ... |
| Ndiv3 | 32 ... |
| Qtd | 1 |
| Calcular 3D | Sim |
| Método | M+M ... |
| e1 | 12,7 (Aço) ... |
| e2 | 12,7 (Aço) ... |
| e3 | 12,7 (Aço) ... |

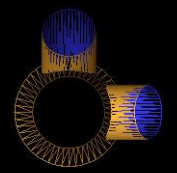


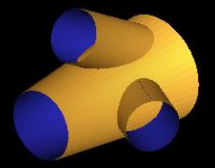





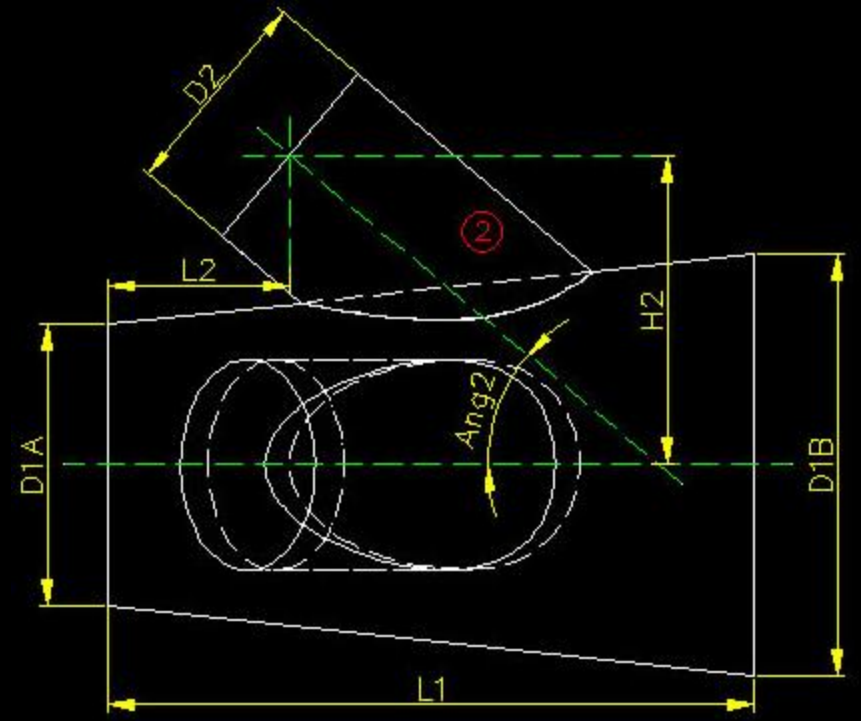


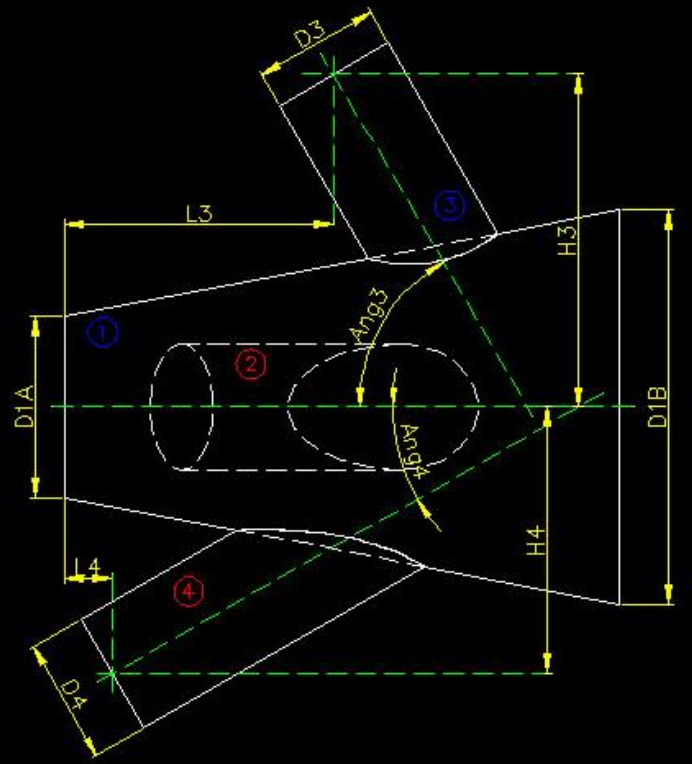


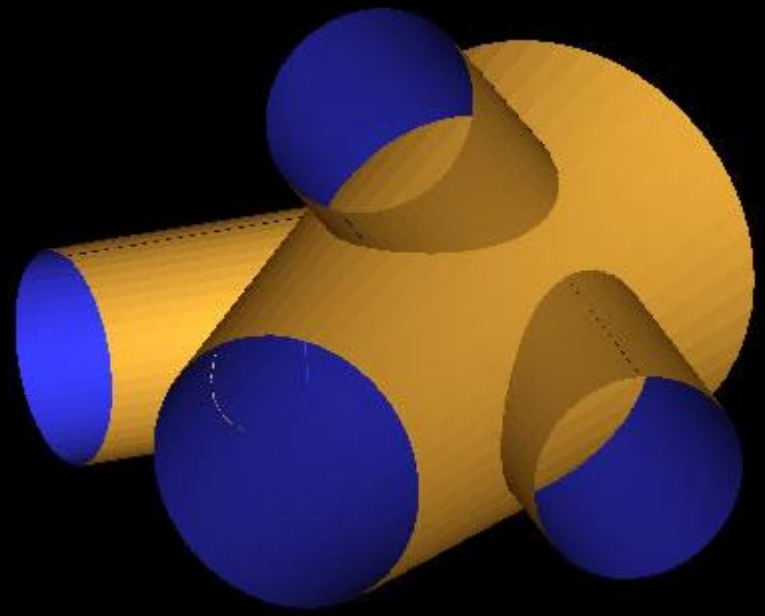


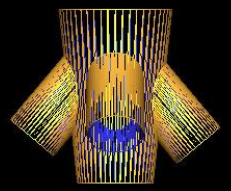
# 188 - Tripla Intersecção Cone/Cilindros Inclinados

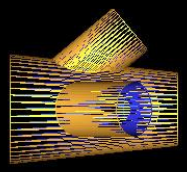
| | | | |
|---|---|---|---|
| D1A | 1000 | Ndiv2 | 32 |
| D1B | 1500 | Ndiv3 | 32 |
| D2 | 750 | Ndiv4 | 32 |
| L1 | 2300 | Qtd | 1 |
| L2 | 650 | Calcular 3D | Sim |
| H2 | 1100 | Método | M+M |
| Ang2 | 30 | e1 | 12,7 (Aço) |
| D3 | 750 | e2 | 12,7 (Aço) |
| L3 | 500 | e3 | 12,7 (Aço) |
| H3 | 1100 | e4 | 12,7 (Aço) |
| Ang3 | 30 | | |
| D4 | 750 | | |
| L4 | 400 | | |
| H4 | 1100 | | |
| Ang4 | 30 | | |
| Ndiv1 | 32 | | |

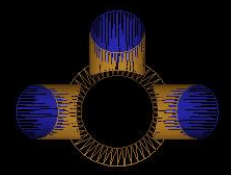


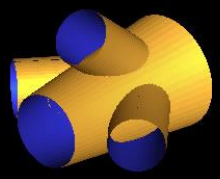





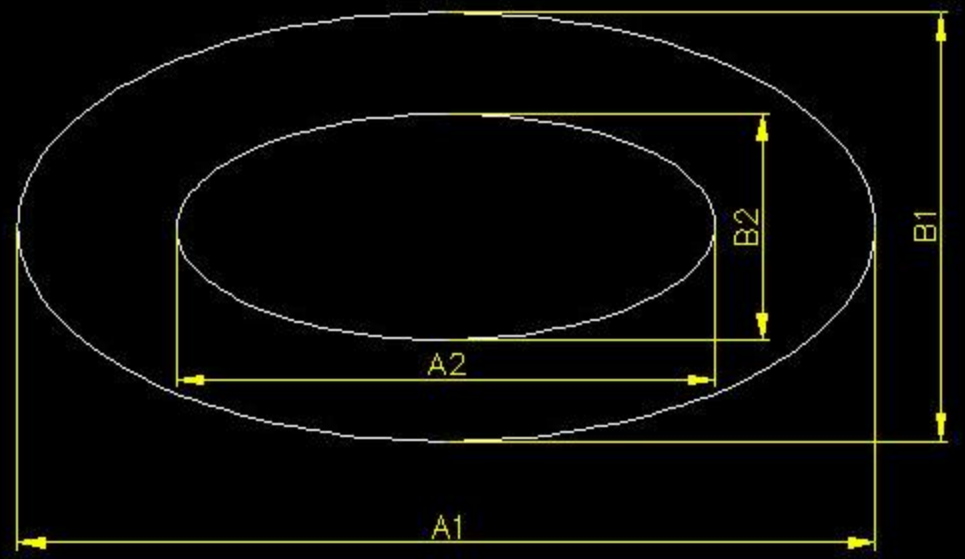


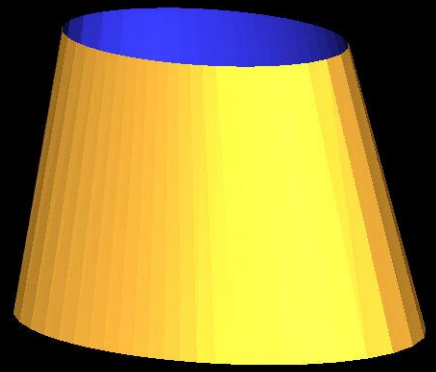


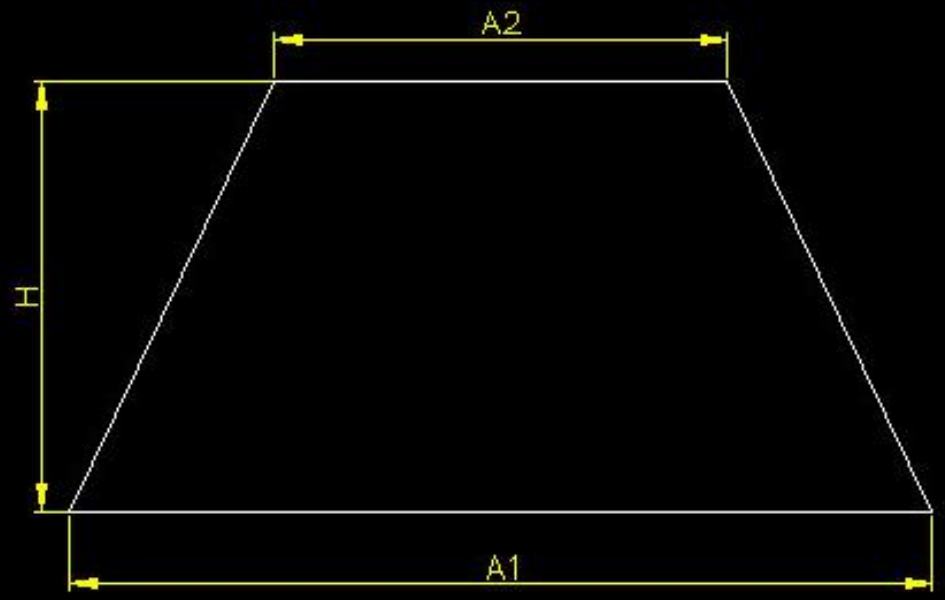


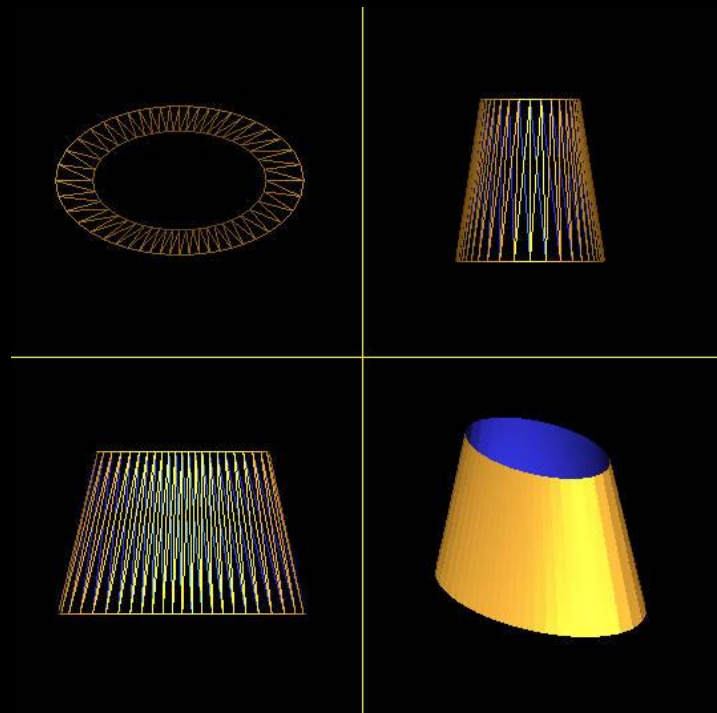
# 192 - Transição Elipse/Elipse

| | |
|---|---|
| A1 | 2000 |
| B1 | 1200 |
| A2 | 1400 |
| B2 | 800 |
| H | 1300 |
| N div | 32 ... |
| Qtd | 1 |
| Calcular 3D | Sim |
| e | 1 (Aço) ... |



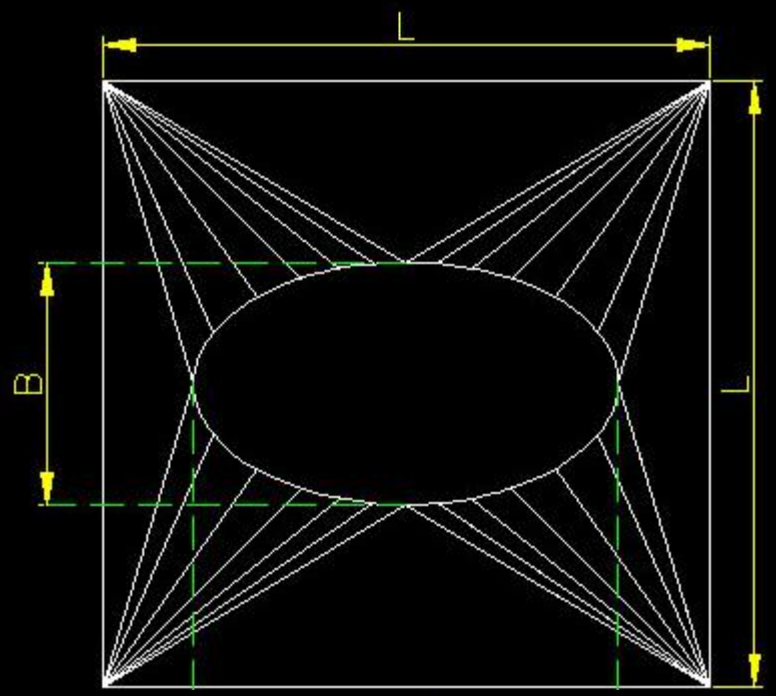



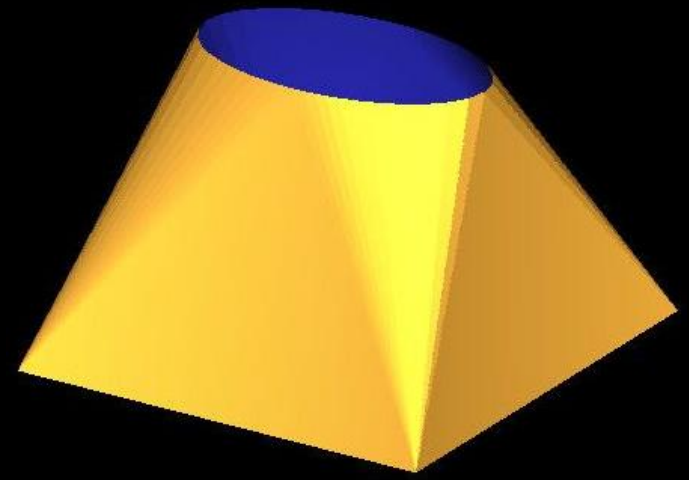


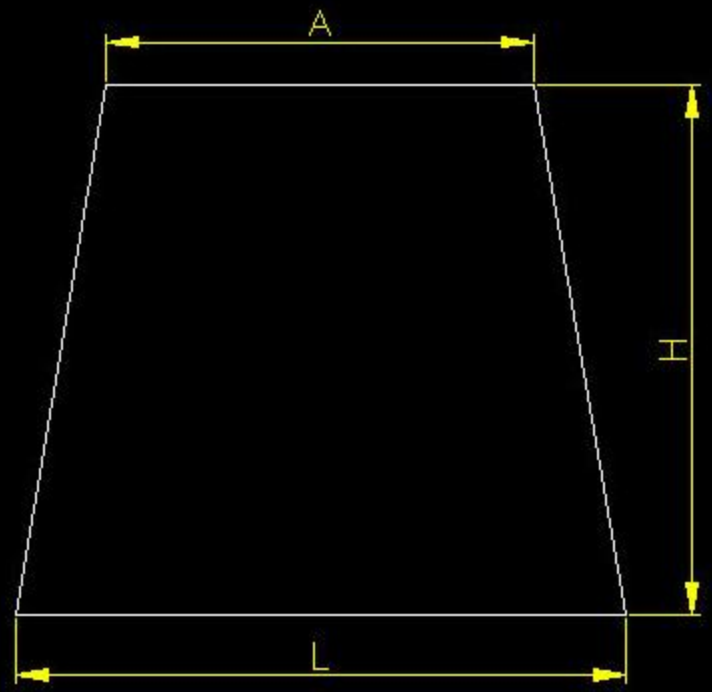



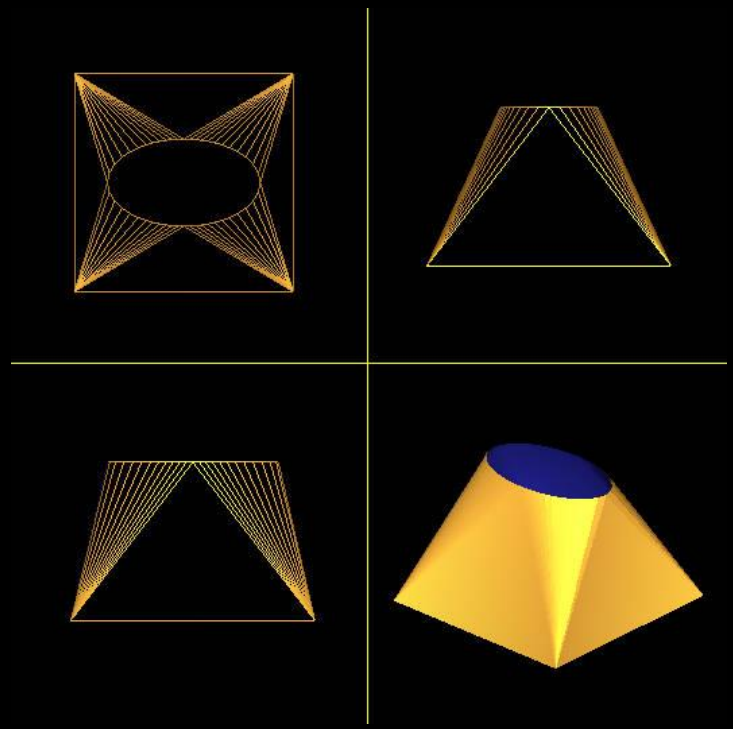
# 193 - Transição Retângulo/Elipse

| | |
|---|---|
| L | 2000 |
| A | 1400 |
| B | 800 |
| H | 1300 |
| N div | 32 ... |
| Qtd | 1 |
| Calcular 3D | Sim |
| e | 1 (Aço) ... |



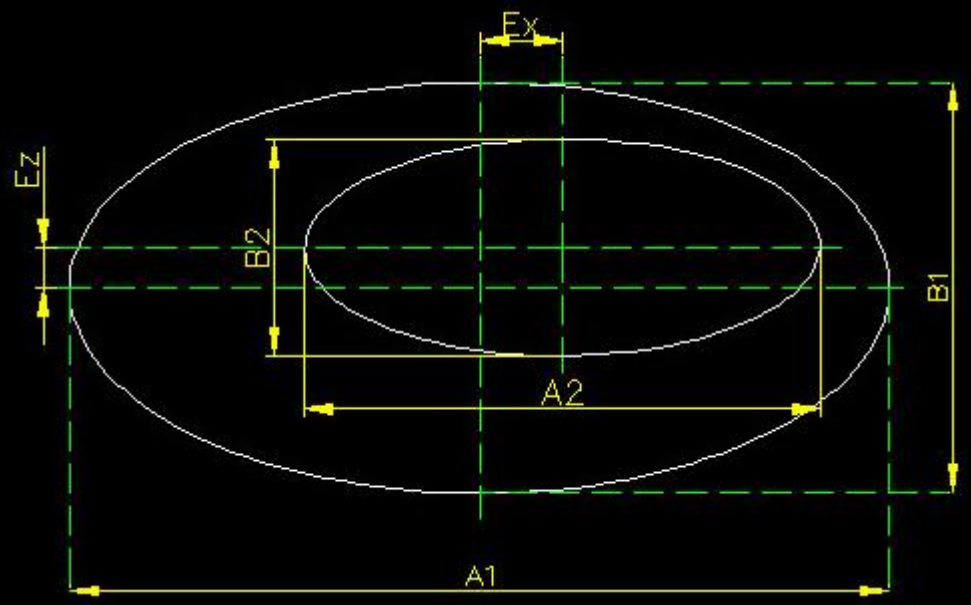



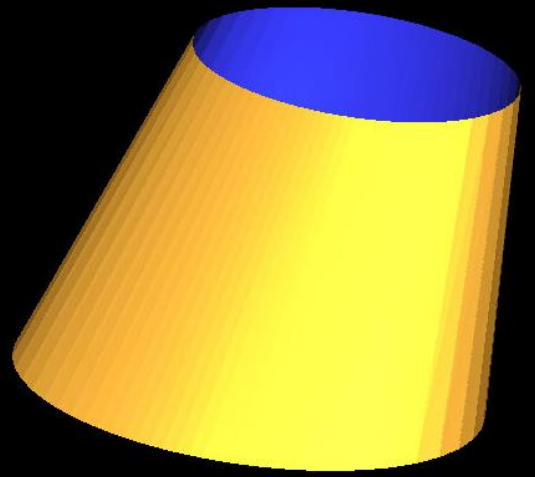


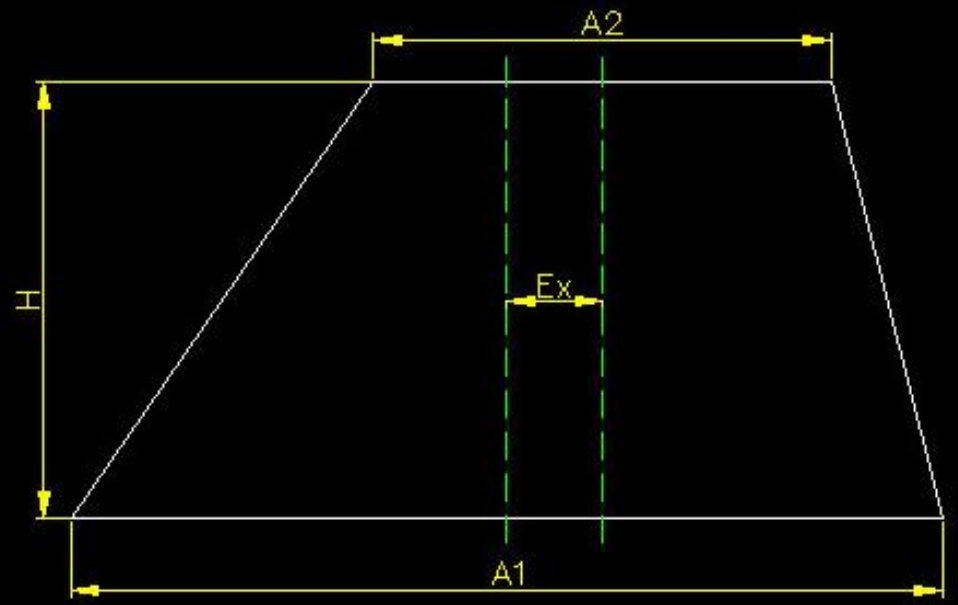



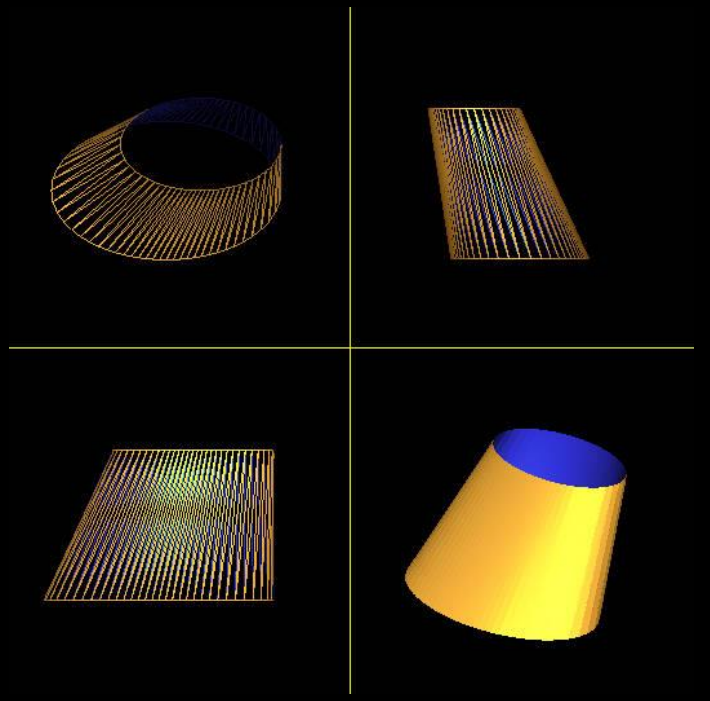
# 194 - Transição Elipse/Elipse Exc.

| | |
|---|---|
| A1 | 2000 |
| B1 | 1200 |
| A2 | 1400 |
| B2 | 800 |
| Ex | 200 |
| Ez | 100 |
| H | 1300 |
| N div | 32 ... |
| Qtd | 1 |
| Calcular 3D | Sim |
| e | 1 (Aço) ... |



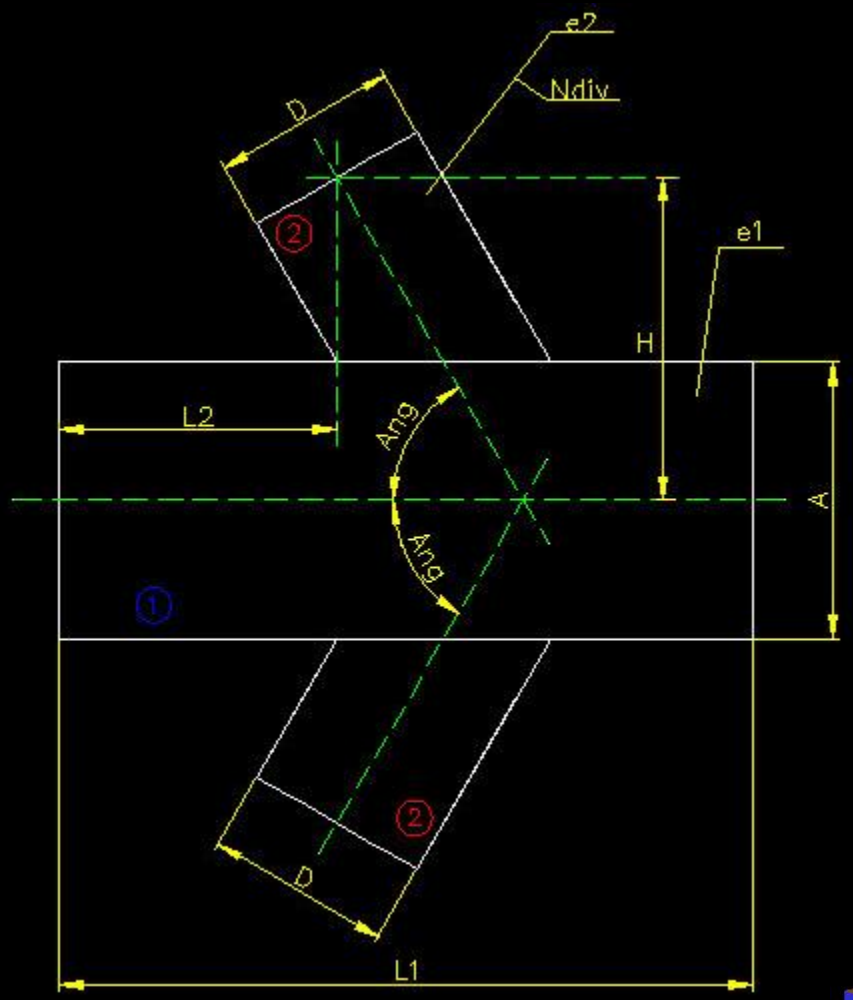



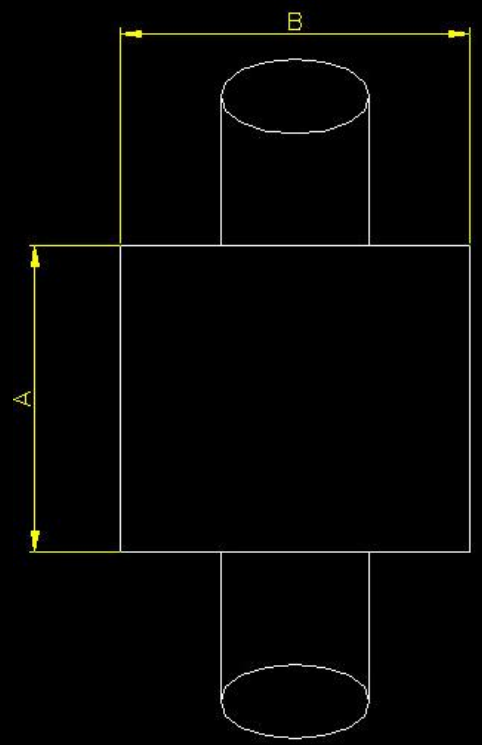


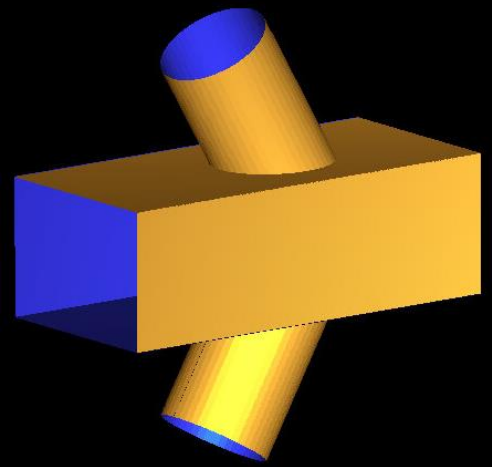



# 198 - Dupla Intersecção em Retângulo

| | |
|---|---|
| A | 500 |
| B | 700 |
| D | 400 |
| L1 | 1500 |
| L2 | 600 |
| H | 700 |
| Ang | 60 |
| Ndiv | 16 ... |
| Qtd | 1 |
| Calcular 3D | Sim |
| Método | M+M ... |
| e1 | 10 (Aço) ... |
| e2 | 8 (Aço) ... |

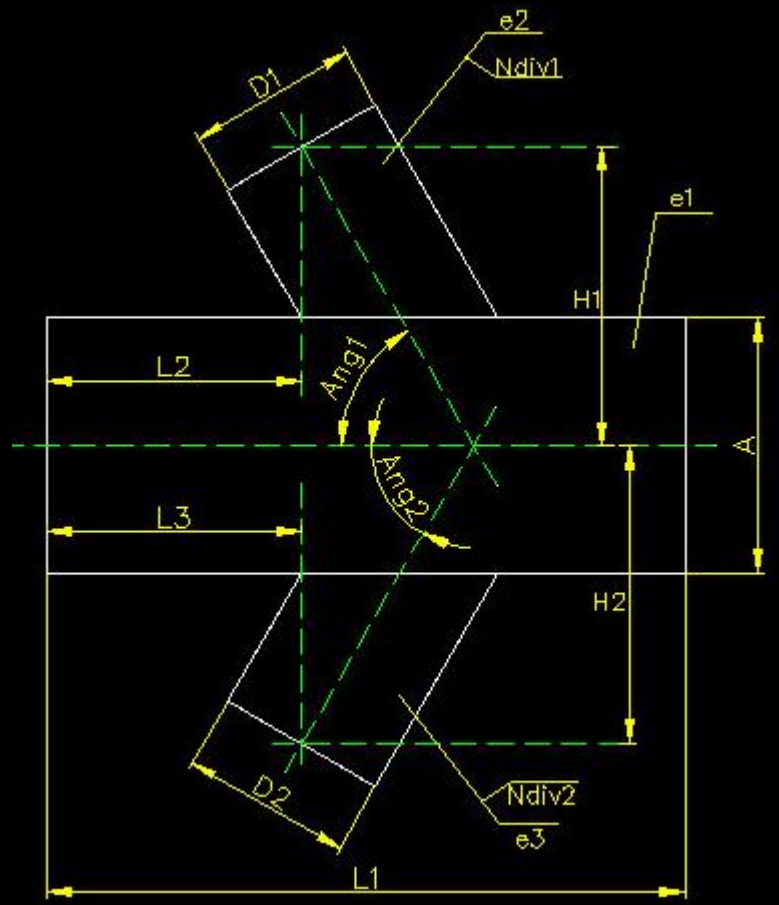


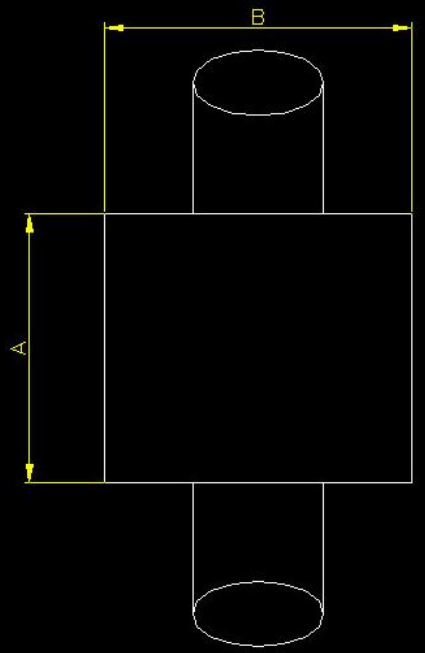



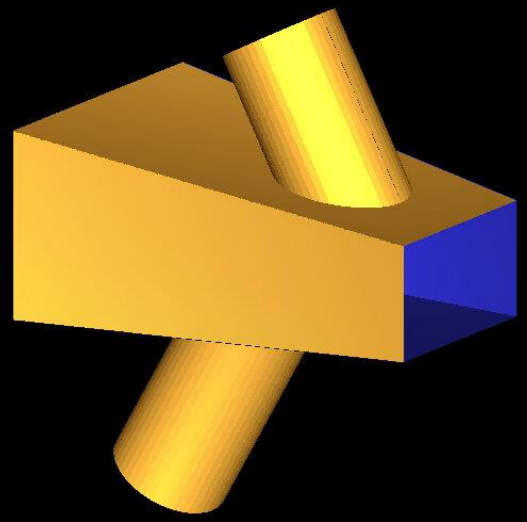



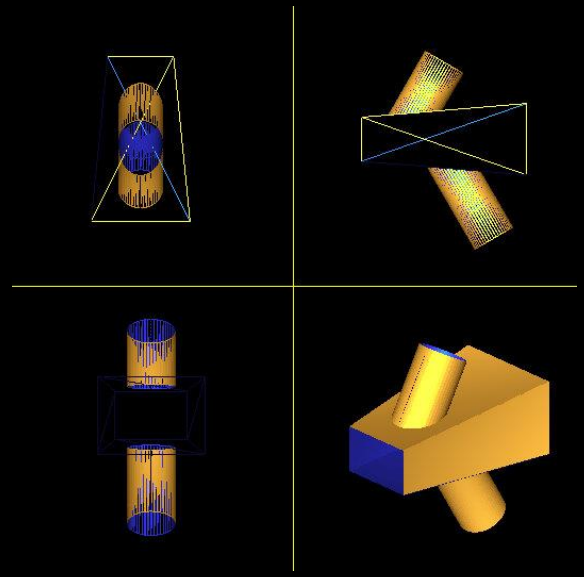
# 199 - Dupla Intersecção Exc. em Retângulo

| | |
|---|---|
| A | 500 |
| B | 700 |
| D1 | 400 |
| D2 | 400 |
| L1 | 1500 |
| L2 | 600 |
| L3 | 400 |
| H1 | 700 |
| H2 | 900 |
| Ang1 | 60 |
| Ang2 | 60 |
| Ndiv1 | 16 |
| Ndiv2 | 16 |
| Qtd | 1 |
| Calcular 3D | Sim |
| Método | M+M |
| e1 | 6,4 (Aço) |
| e2 | 6,4 (Aço) |
| e3 | 6,4 (Aço) |



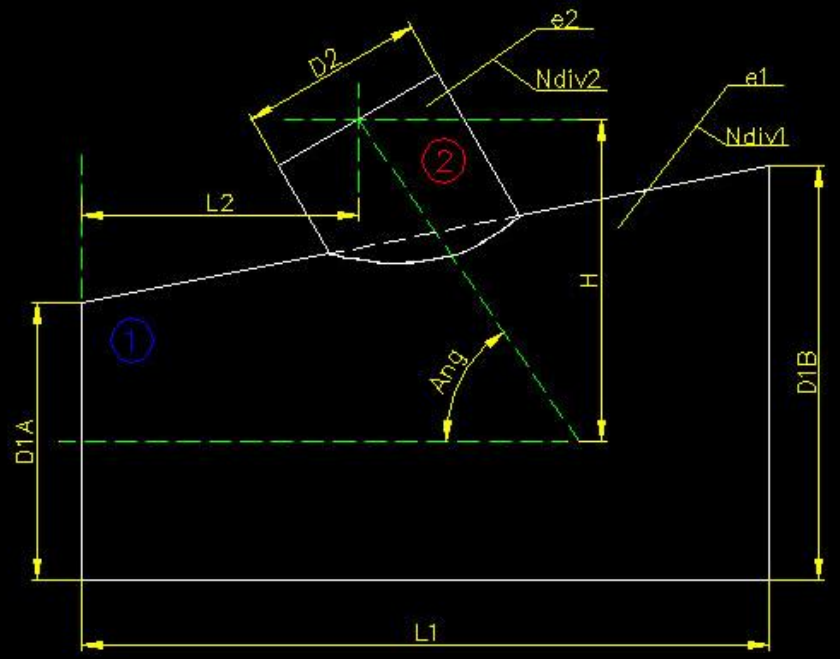



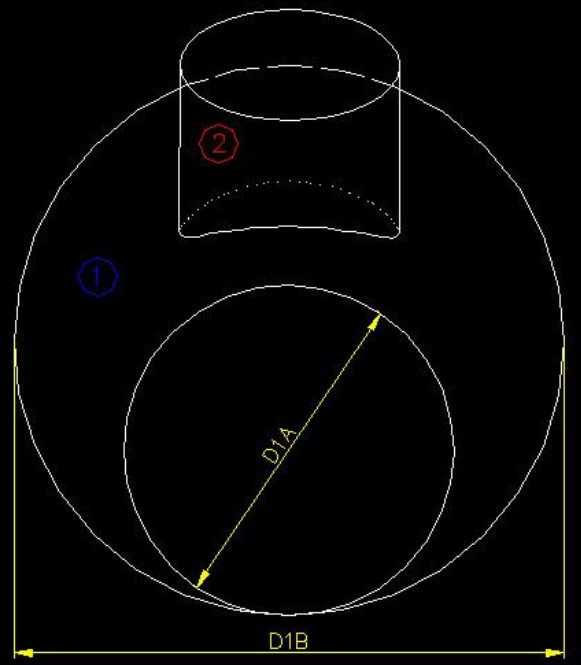



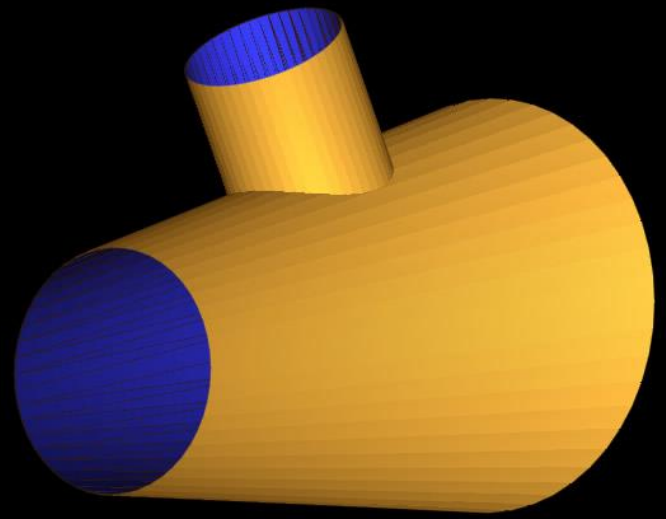


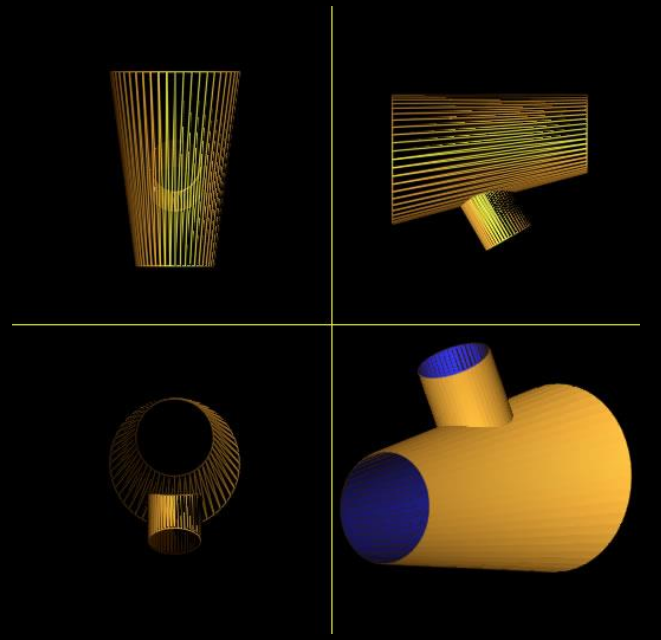
# 233 - Intersecção Cil/Cone Apoiada Diâmetro Perpendicular

| | |
|---|---|
| D1A | 500 |
| D1B | 1000 |
| D2 | 400 |
| L1 | 1600 |
| L2 | 600 |
| H | 800 |
| Ang | 60 |
| Ndiv1 | 32 |
| Ndiv2 | 16 |
| Qtd | 1 |
| Calcular | 1+2 |
| Calcular 3D | Sim |
| Método | M+M |
| e1 | 10 (Aço) |
| e2 | 8 (Aço) |

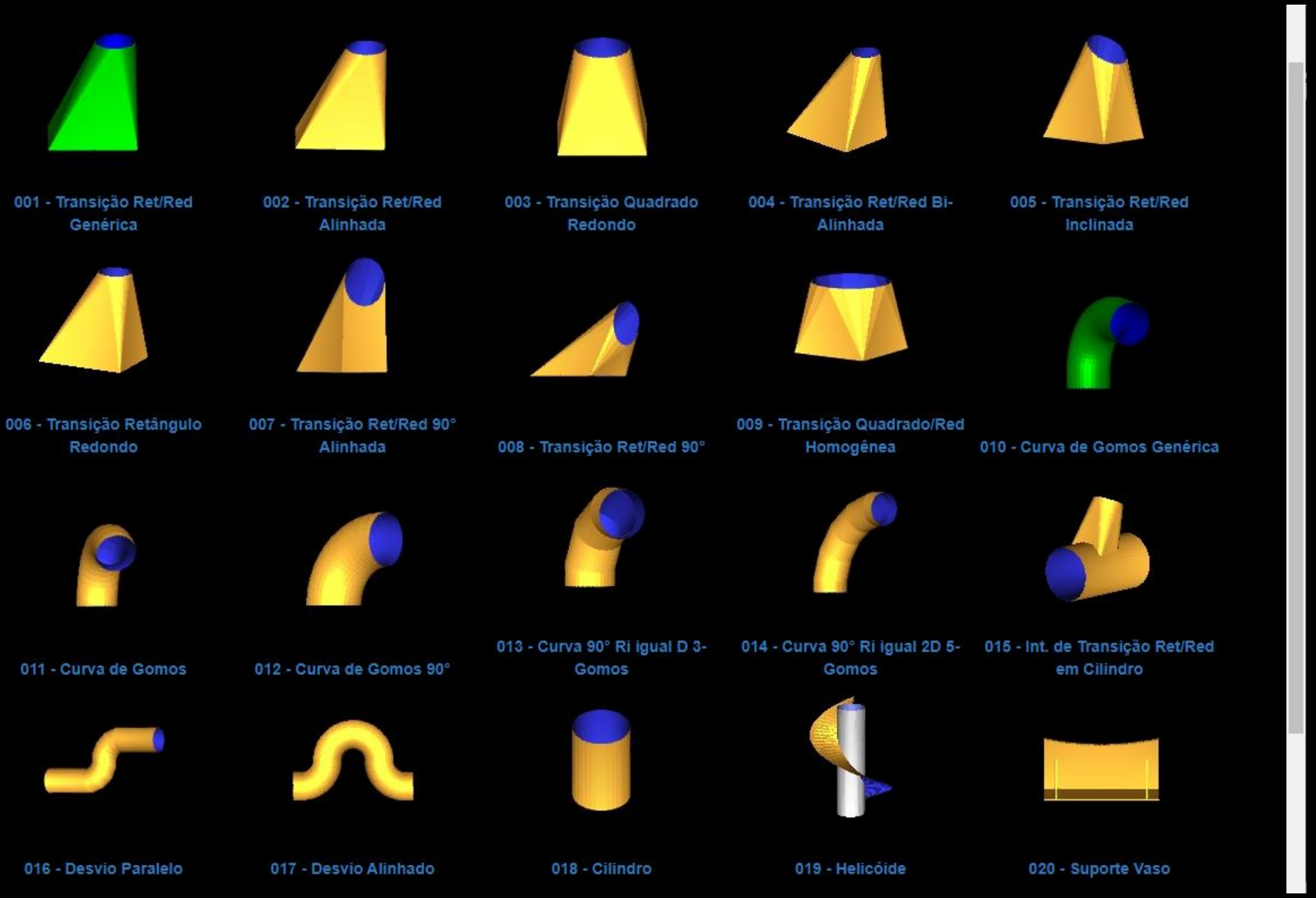




# Listagem simplificada de todas as 235 figuras:



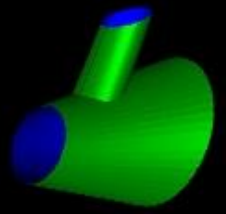
021 - Cilindro Cortado por Plano

022 - Cilindro Cortado nos Extremos

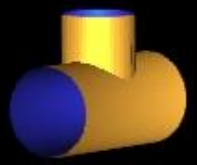
023 - Curva Direta 90°

024 - Curva Direta

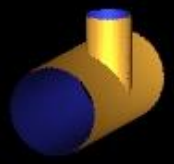
025 - Desvio Circular Paralelo



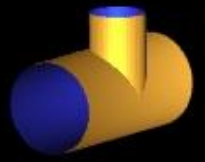
026 - Intersecção Cone/Cone Genérica



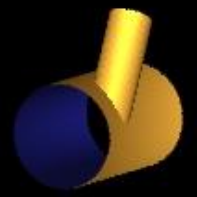
027 - Intersecção Cilindro / Cilindro



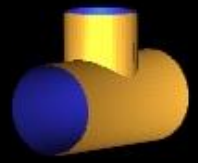
028 - Intersecção Cil/Cil Excêntrica



029 - Intersecção Cil/Cil Alinhada 90°



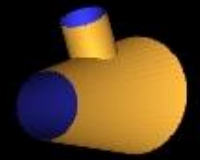
030 - Intersecção Cil/Cil em Ângulo



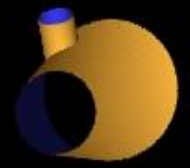
031 - Intersecção Tubos prontos inclinada - Odebrecht

032 - Intersecção Cilindro/Cone 90°

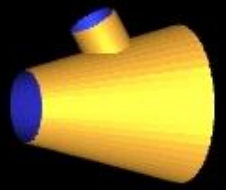
033 - Intersecção Cilindro/Cone 90° Alinhada



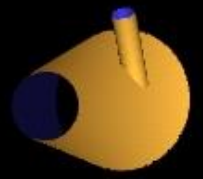
034 - Intersecção Cil/Cone Apoiada



035 - Intersecção Cil/Cone Apoiada Excêntrica

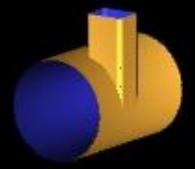


036 - Intersecção Cil/Cone

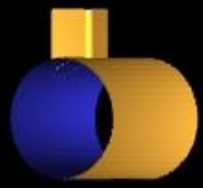


037 - Intersecção Cil/Cone Excêntrica

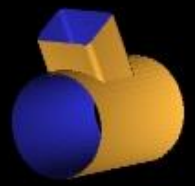
038 - Intersecção Ret/Cil 90°



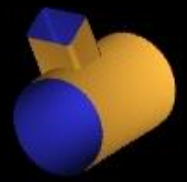
039 - Intersecção Ret/Cil 90° Alinhada



040 - Intersecção Ret/Cil 90° Excêntrica

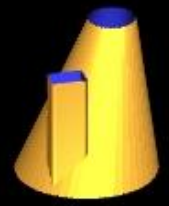


041 - Intersecção Ret/Cil em Ângulo



042 - Intersecção Ret/Cil Ângulo Excêntrica

043 - Intersecção Ret/Cone 90°

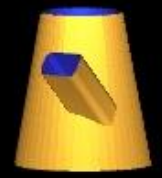


044 - Intersecção Ret/Cone 90° Excêntrica

045 - Intersecção Ret/Cone

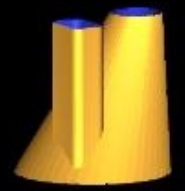
046 - Intersecção Ret/Cone Excêntrica

047 - Intersecção Ret/Cone Inclinado



048 - Intersecção Ret/Cone Inclinado Excêntrica

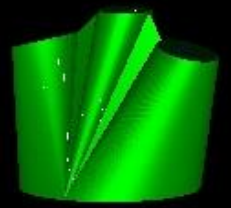
049 - Intersecção Ret/Cone Apoiada



050 - Intersecção Ret/Cil 90° Apoiada Excêntrica

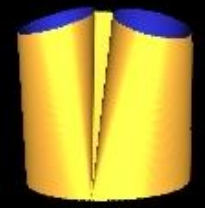
051 - Int. Ret/Cone Inclinado Apoiada Excêntrica

052 - Bifurcação Cônica (Calça)

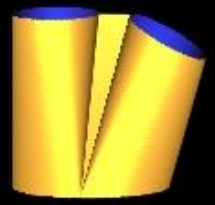


053 - Trifurcação Genérica

054 - Trifurcação Unida



055 - Bifurcação Unida

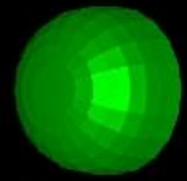


056 - Bifurcação Unida Saída Paralela

057 - Caixa Espiral

058 - Tronco de Cone

059 - Helicóide Cônico

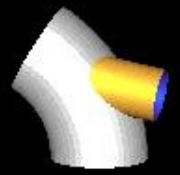


060 - Tampo Torisférico Genérico

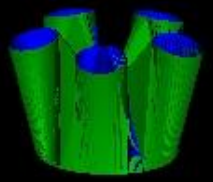
061 - Tampo Torisférico ASME 6%

062 - Tampo Torisférico ASME 10%

063 - Trifurcação Plana

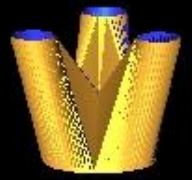


064 - Intersecção Cilindro Curva

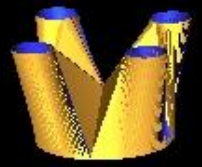


065 - Multifurcação Genérica

066 - Multifurcação Dupla



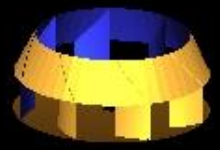
067 - Multifurcação Tripla



068 - Multifurcação Quádrupla

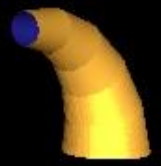
069 - Bifurcação Especial

070 - Tronco de Cone Excêntrico



071 - Rotor Centrífugo

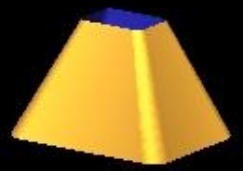
072 - Tronco de Pirâmide



073 - Curva com Redução

074 - Esfera

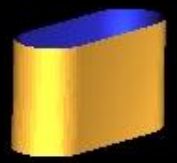
075 - Transição Ret/Red Cantos Arredondados



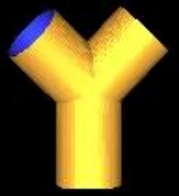
076 - Transição Ret/Ret Cantos Arredondados

077 - Transição Ret/Ret Cantos Arredondados Inclinada

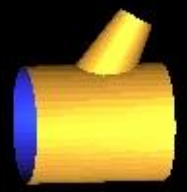
078 - Transição Oval Redondo



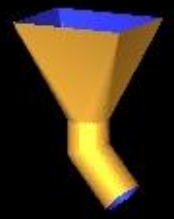
079 - Tubo Oval



080 - Bifurcação Cilindro Cilindro



081 - Intersecção Cone em Cilindro



082 - Redução Tipo 2

083 - Redução Tipo 1

084 - Pás de Rotor

085 - Tronco de Pirâmide Bocas Paralelas

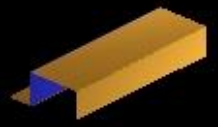
086 - Flange Circular

087 - Chapa Retangular

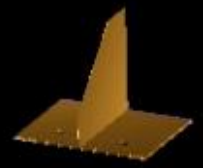
088 - Chapa Triangular

089 - Flange Retangular

090 - Suporte Duplo com Furo

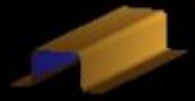


091 - Perfil 1

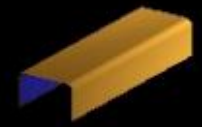


092 - Suporte Plano

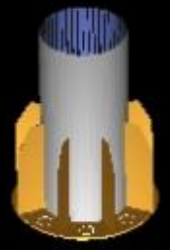
093 - Perfil G



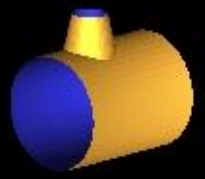
094 - Perfil Omega



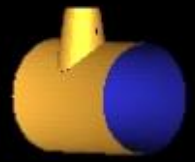
095 - Perfil U



096 - Sapata Circular

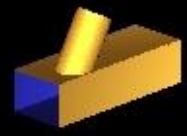


097 - Intersecção Cone em Cilindro 90°



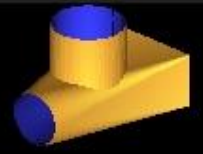
098 - Intersecção Cone/Cil 90° Excentrica

099 - Curva de Gomos 180°



100 - Intersecção Cil/Ret Excêntrica

101 - Pórtico

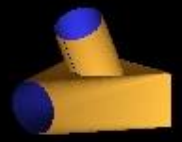


102 - Intersecção Cilindro/Transição 90°

103 - Intersecção Cil/Transição em Ângulo

104 - Intersecção Cilindro/Retângulo

105 - Intersecção Cil/Ret Transição



106 - Intersecção Cil/Transição Exc

107 - Tronco Oval

108 - Tronco Oval Excêntrico

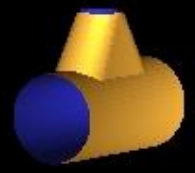
109 - Tronco Oval Exc Inclinado

110 - Transição Ret/Oval

111 - Transição Ret/Oval Excêntrica

112 - Transição Ret/Oval Exc Inclinada

113 - Tronco Oval Invertido



114 - Int. de Transição Cil/Oval em Cilindro

115 - Transição Ret. Cantos Arredondados/Oval

116 - Transição Ret. Cantos Arredondados/Oval Exc.

117 - Transição Ret. Cantos Arred./Oval Exc. Inclinado

118 - Transição Ret. Cantos Arred./Redondo Exc.

119 - Transição Ret. Cantos Arred./Red. Exc. Inclinado

120 - Int. Cil. Inclinado/Transição Oval/Red.

121 - Int. Cil. Inclinado Exc./Transição Oval/Red.

122 - Int. Cil./Transição Oval/Red.

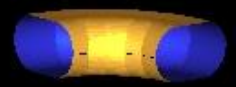
123 - Int. de Transição Oval/Cil. em Tronco de Cone

124 - Int. Cil. Lateral/Transição Oval/Red.

125 - Int. de Cil. em Transição Oval/Red. Exc.

126 - Intersecção Tubo Oval/Tubo Oval

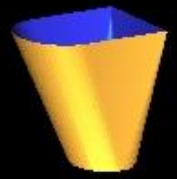
127 - Curva de Gomos Oval 90°



128 - Curva de Gomos Oval Invertida 90°

129 - Chapa com Corte Elíptico

130 - Elipse

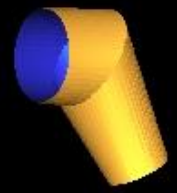


131 - Transição Semi-Oval/Redondo

132 - Transição Oval para Redondos

133 - Transição Excêntrica Oval Redondos Inclinada

134 - Transição Redondo/Oval para Redondos



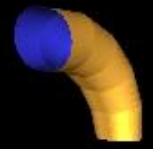
135 - Curva Direta Especial

136 - Intersecção Cil. em Ret/Ret cantos Arredondados

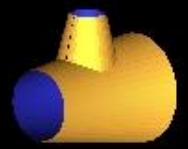
137 - Pórtico Especial

138 - Int. Tubo Oval em Transição Ret./Red.

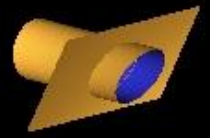
139 - Int. Tubo Oval em Transição Ret./Oval



140 - Curva de gomos Oval 90° com Redução



141 - Intersecção de Cone/Cone Alinhada



142 - Cilindro em chapa com corte Elíptico

143 - Espiral

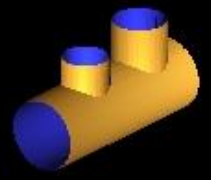
144 - Curva Cônica Exc. Genérica - Re

145 - Tronco de Cone Exc. Apoiado

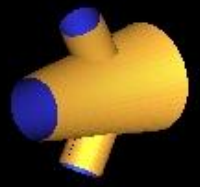
146 - Curva Oval com Redução n-Gomos

147 - Tubo de Sucção - Rm

148 - Tubo de Sucção Raio variável

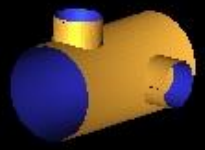


149 - Dupla Intersecção em Cilindro

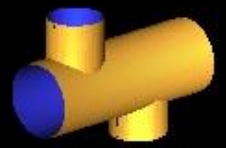


150 - Dupla Intersecção em Cone

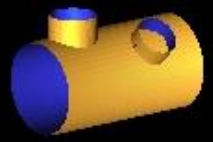
151 - Misturador



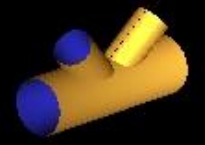
152 - Dupla Intersecção em Cilindro 2



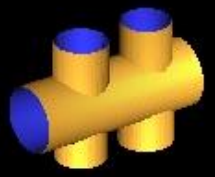
153 - Dupla Intersecção em Cilindro 3



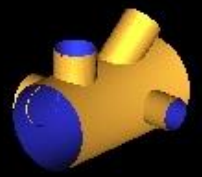
154 - Dupla Intersecção Cilíndrica em ângulo



155 - Dupla Intersecção Cilíndrica em ângulo 2

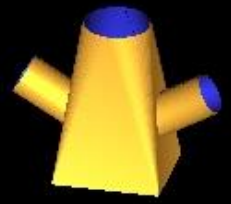


156 - Múltipla Intersecção Cilíndrica



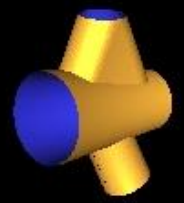
157 - Múltipla Intersecção Cilíndrica 2

158 - Pás retas

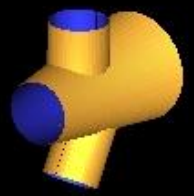


159 - Dupla Intersecção em Transição Ret/Red

160 - Rotor de pás retas



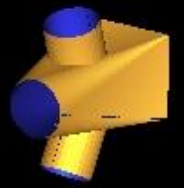
161 - Dupla Intersecção em Cone 2



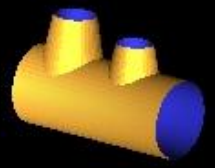
162 - Dupla Intersecção em Cone 3

163 - Curva Retangular em placas 90°

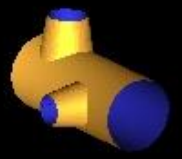
164 - Curva Retangular em placas



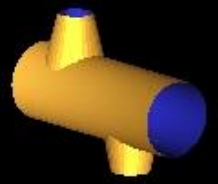
165 - Dupla Intersecção em Transição Ret/Red 2



166 - Intersecção de Cones em Cilindro

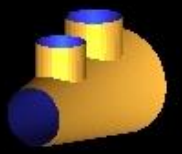


167 - Intersecção de Cones em Cilindro 2

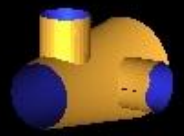


168 - Intersecção de Cones em Cilindro 3

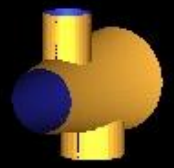
169 - Intersecção de Cones/Cilindro em ângulo



170 - Intersecção de Cilindros em Cone

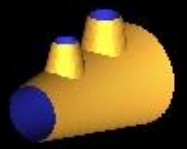


171 - Intersecção de Cilindros em Cone 2

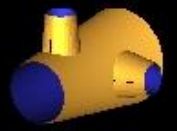


172 - Intersecção de Cilindros em Cone 3

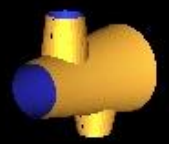
173 - Intersecção de Cilindros/Cone em ângulo



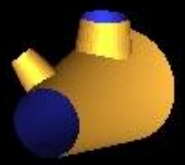
174 - Intersecção de Cones/Cone



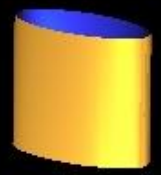
175 - Intersecção de Cones/Cone 2



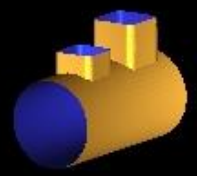
176 - Intersecção de Cones/Cone 3



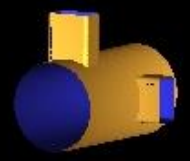
177 - Intersecção de Cones/Cone em ângulo



178 - Tubo elíptico

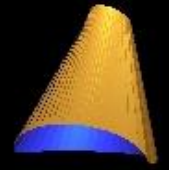


179 - Int. Retângulos com Cantos arredondados/Cilindro

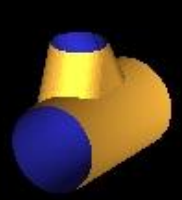


180 - Int. Retângulos com Cantos arredondados/Cilindro 2

181 - Trifurcação Excêntrica Inclinada



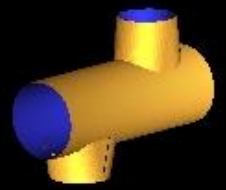
182 - Transição lateral da trifurcação



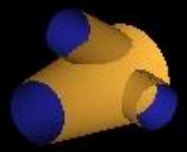
183 - Intersecção Cilindro Transição Cil/Oval Exc.

184 - Intersecção Cone/Cone Inclinada

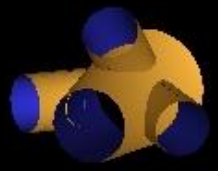
185 - Transição central da trifurcação



186 - Dupla Intersecção Cilindro/Transição Cil. Oval

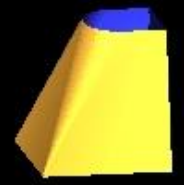


187 - Dupla Intersecção Cone/Cilindros Inclinados



188 - Tripla Intersecção Cone/Cilindros Inclinados

189 - Intersecção Cone/Cones inclinados



190 - Transição Retângulo/Semi-oval

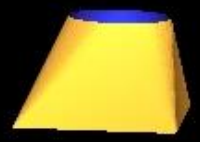
191 - Transição Ret./Semi-oval Exc. Inclinada

192 - Transição Elipse/Elipse

193 - Transição Retângulo/Elipse

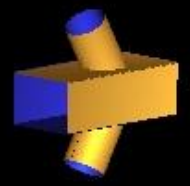
194 - Transição Elipse/Elipse Exc.

195 - Transição Elipse/Elipse Exc. Inclinada

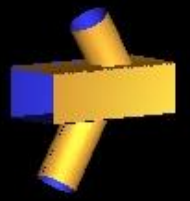


196 - Transição Retângulo/Elipse Exc.

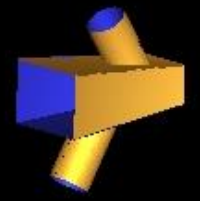
197 - Transição Ret./Elipse Exc. Inclinada



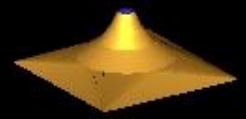
198 - Dupla Intersecção em Retângulo



199 - Dupla Intersecção Exc. em Retângulo



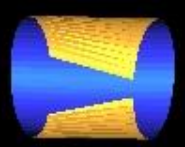
200 - Dupla Intersecção em Transição Ret./Ret.



201 - Toldo (cobertura) 1

202 - Toldo (cobertura) 2

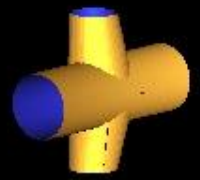
203 - Gomo da Caixa Espiral Tipo 1



204 - Gomo da Caixa Espiral Tipo 2

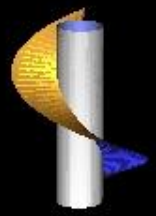
205 - Gomo variável Caixa Espiral

206 - Cone Excêntrico com divisões Axiais



207 - Intersecção de Cones Excêntricos em Cone

208 - Espiral tipo 2

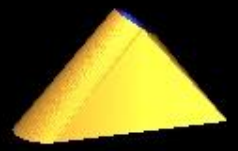


209 - Helicóide método clássico

210 - Transição Semi-Círculo/Ret para Redondo

211 - Transição Semi-Círculo/Ret para Redondo Exc.

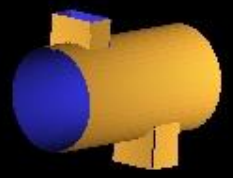
212 - Transição Semi-Circ./Ret. para Redondo R1/R2



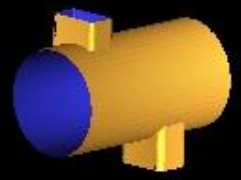
213 - Transição Semi-Círculo/Ret para Red. Exc. Inclinado

214 - Tronco de Pirâmide Variável

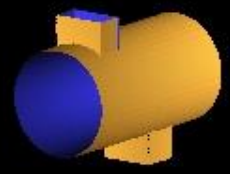
215 - Tronco de Pirâmide Variável Inclinado



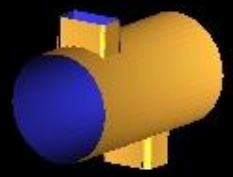
216 - Intersecção de Ret. Exc. em Cilindro



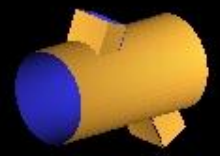
217 - Intersecção de Ret. Exc. com Raio em Cil.



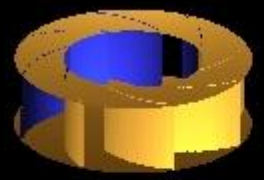
218 - Intersecção de Retângulos em Cilindro



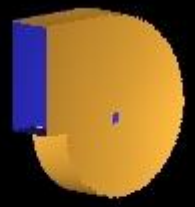
219 - Intersecção de Ret. com Raio em Cilindro



220 - Intersecção de Ret. com Ângulo em Cil.



221 - Rotor FDS

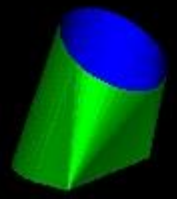


222 - Voluta FDS

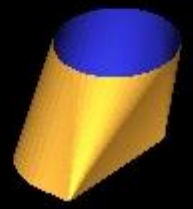
223 - Int. Quad/Red com Quadrado Cônico

224 - Int. Quad/Red com Quadrado Cônico Exc.

225 - Int. Quad/Red com Quadrado Cônico Inclinado

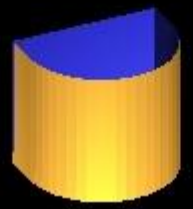


226 - Transição Genérica Semi-Círculo para Redondo

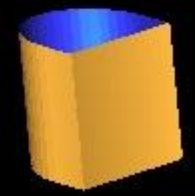


227 - Transição Semi-Círculo para Redondo Alinhada

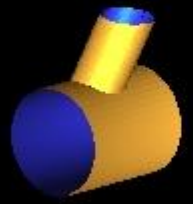
228 - Transição Semi-Círculo para Redondo



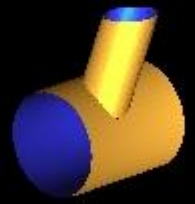
229 - Transição Semi-Círculo para Semi-Círculo



230 - Transição Semi-Círculo para Semi-Círculo Exc.



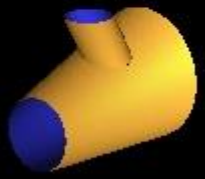
231 - Intersecção Cil/Cil em Ângulo Diâmetro Perpendicular



232 - Intersecção Cil/Cil Diâmetro Perpendicular Exc.

233 - Intersecção Cil/Cone Apoiada Diâmetro Perpendicular

234 - Intersecção Cil/Cone Diâmetro Perpendicular



235 - Intersecção Cil/Cone Apoiada Excêntrica

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