



João Vitor

INSTITUTO DO EMPREGO E FORMAÇÃO PROFISSIONAL, IP
CENTRO DE EMPREGO E FORMAÇÃO PROFISSIONAL DE ÉVORA

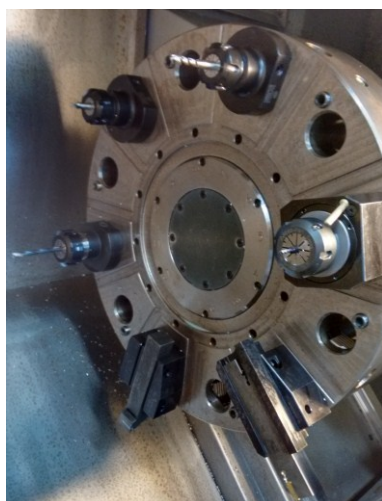
UFCD [5850] – Ferramentas de Corte Aplicadas na Maquinação de Alumínio, Titânio e Compósitos

Formador: João Raimundo

Formando: Eládio Pereira

Biblioteca de ferramentas

Mastercam®





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Nesta UFCD foi proposto pelo formador elaborar uma biblioteca de ferramentas para o Mastercam, com as ferramentas existentes na sala, de seguida deixo os relatórios das mesmas retiradas do Mastercam após elaboração de algumas ferramentas.

TOOL LIST

24-04-2015 15:40

C:\USERS\USER\DESKTOP\FERRAMENTAS TORNO ALUMINIO.TOOLDB

FILTERED: YES

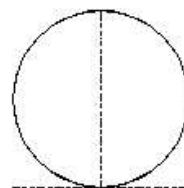
TOOL INFO

T0101: General Turning Tool - FERRO DE DESBASTE PASTILHA REDONDA R6

TOP TURRET: YES
 ACTIVE SPINDLE: Left
 SPINDLE DIRECTION: CCW
 SPINDLE SPEED: 200 CSS
 FAST FEED: 0.1 mm/min
 SLOW FEED: 0.1 mm/min
 OFFSET: 1
 OFFSET (BACK): NA
 INSERT UP: NO
 COOLANT: Off
 TIME: 00:00:00

HOLDER: Ferro de Desbaste PASTILHA
 REDONDA R6
 LENGTH: 150.0
 WIDTH: 32.0
 ORIENTATION: Vertical ANGLE: 0.0
 HAND: Right

INSERT: VBMT16D408NN
 SHAPE: R (round)
 RADIUS: 6.0
 MATERIAL: Carbide



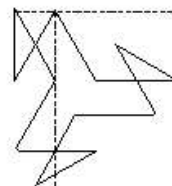
TOOL INFO

T0202: Threading Tool - FERRO DE ROSCA INTERIOR DIREITA ALUMINIO

TOP TURRET: YES
 ACTIVE SPINDLE: Left
 SPINDLE DIRECTION: CCW
 SPINDLE SPEED: 0 RPM
 FAST FEED: 0.0 mm/min
 SLOW FEED: 0.0 mm/min
 OFFSET: 2
 OFFSET (BACK): NA
 INSERT UP: NO
 COOLANT: Off
 TIME: 00:00:00

HOLDER: 266RKF-25-16
 LENGTH: 300.0
 WIDTH: 17.0
 ORIENTATION: Horizontal ANGLE: 0.0
 HAND: Right

INSERT: 266RL-16VM01A002M
 SHAPE: B (82 deg. parallelogram)
 RADIUS: 0.09
 MATERIAL: Carbide

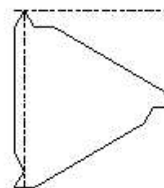


TOOL INFO**T0303: Threading Tool - FERRO DE ROSCA INTERIOR D16 ALUMINIO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	0 RPM
FAST FEED:	0.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	3
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	R166.0KF -16-1220-11B	
LENGTH:	200.0	
WIDTH:	12.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

INSERT:	266RL-16VM01A001M 1125
SHAPE:	B (82 deg. parallelogram)
RADIUS:	0.06
MATERIAL:	Carbide



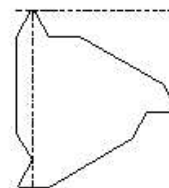
TOOL INFO

T0404: Threading Tool - FERRO ROSCA INTERIOR ALUMINIO

TOP TURRET: YES
 ACTIVE SPINDLE: Left
 SPINDLE DIRECTION: CCW
 SPINDLE SPEED: 0 RPM
 FAST FEED: 0.0 mm/min
 SLOW FEED: 0.0 mm/min
 OFFSET: 4
 OFFSET (BACK): NA
 INSERT UP: NO
 COOLANT: Off
 TIME: 00:00:00

HOLDER: R166.0KF -16-1220-11B
 LENGTH: 125.0
 WIDTH: 10.0
 ORIENTATION: Horizontal ANGLE: 0.0
 HAND: Right

INSERT: R166.0L-11VM01-001
 SHAPE: B (82 deg. parallelogram)
 RADIUS: 0.06
 MATERIAL: Carbide

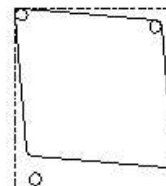
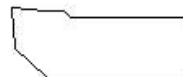
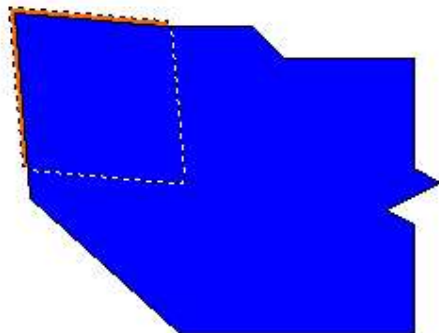


TOOL INFO**T1111: Boring Bar - FERRO INTERIOR DIREITA ALUMINIO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	2000 CSS
FAST FEED:	0.2 mm/min
SLOW FEED:	0.2 mm/min
OFFSET:	11
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	C4-SCLCR-1170-09	
LENGTH:	47.0	
WIDTH:	11.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

INSERT:	ccgx09 t3 04-al
SHAPE:	C (80 deg. diamond)
RADIUS:	0.4
MATERIAL:	Carbide

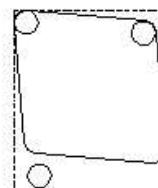
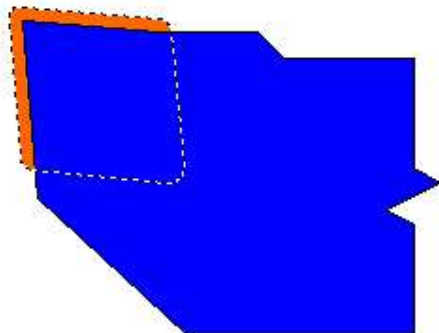


TOOL INFO**T1212: Boring Bar - FERRO INTERIOR DIREITA ALUMINIO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	2000 CSS
FAST FEED:	0.3 mm/min
SLOW FEED:	0.3 mm/min
OFFSET:	12
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	C4-SCLCR-1170-09	
LENGTH:	47.0	
WIDTH:	11.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

INSERT:	ccgx09 t3 08-al
SHAPE:	C (80 deg. diamond)
RADIUS:	0.8
MATERIAL:	Carbide



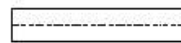
TOOL INFO

T1414: Drilling Tool - BROCA DE PASTILHAS D29 ALUMINIO

TOP TURRET: YES
 ACTIVE SPINDLE: Left
 SPINDLE DIRECTION: CCW
 SPINDLE SPEED: 300 CSS
 FAST FEED: 0.13 mm/min
 SLOW FEED: 0.0 mm/min
 OFFSET: 14
 OFFSET (BACK): NA
 INSERT UP: NO
 COOLANT: Off
 TIME: 00:00:00

HOLDER: —
 LENGTH: 200.0
 WIDTH: 50.0
 ORIENTATION: Horizontal ANGLE: 0.0
 HAND: Right

DRILL: Center Drill
 DIAMETER: 29.0
 TIP ANGLE: 0.0

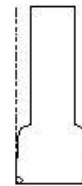


TOOL INFO**T1515: Grooving Tool - SUPORTE FERRO SANGRAR**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	300 CSS
FAST FEED:	0.13 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	15
OFFSET (BACK):	14
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	150.0	
WIDTH:	12.5	
ORIENTATION:	Vertical	ANGLE: 0.0
HAND:	Right	

INSERT:	—
SHAPE:	E (75 deg. diamond)
RADIUS:	0.2
MATERIAL:	Carbide

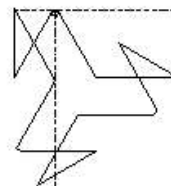


TOOL INFO**T1818: Threading Tool - FERRO DE ROSCA INTERIOR ALUMINIO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	0 RPM
FAST FEED:	0.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	18
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	S20Q-SXFNR22	
LENGTH:	147.0	
WIDTH:	14.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

INSERT:	—
SHAPE:	B (82 deg. parallelogram)
RADIUS:	0.2
MATERIAL:	Carbide



TOOL INFO**T2020: Drilling Tool - BROCA D1 ALUMINIO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	3500 CSS
FAST FEED:	100.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	20
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	1.0
TIP ANGLE:	118.0



TOOL INFO**T2121: Drilling Tool - BROCA D1.2 ALUMINIO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	3500 CSS
FAST FEED:	100.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	21
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	1.2
TIP ANGLE:	118.0



TOOL INFO**T2121: Drilling Tool - BROCA D1.1 ALUMINIO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	3500 CSS
FAST FEED:	100.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	21
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	1.1
TIP ANGLE:	118.0



TOOL INFO

T2222: Drilling Tool - BROCA D1.3 ALUMINIO

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	3500 CSS
FAST FEED:	100.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	22
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	1.3
TIP ANGLE:	118.0



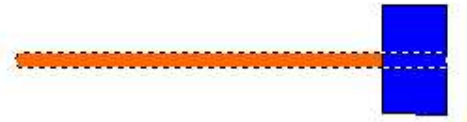
TOOL INFO

T2323: Drilling Tool - BROCA D1.4 ALUMINIO

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	3500 CSS
FAST FEED:	100.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	23
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	1.4
TIP ANGLE:	118.0



TOOL INFO**T2424: Drilling Tool - BROCA D1.5 ALUMINIO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	3500 CSS
FAST FEED:	100.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	24
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	1.5
TIP ANGLE:	118.0



TOOL INFO

T2525: Drilling Tool - BROCA D1.6 ALUMINIO

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	3500 CSS
FAST FEED:	100.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	25
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	1.6
TIP ANGLE:	118.0



TOOL INFO**T2626: Drilling Tool - BROCA D1.7 ALUMINIO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	3500 CSS
FAST FEED:	100.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	26
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	1.7
TIP ANGLE:	118.0



TOOL INFO**T2727: Drilling Tool - BROCA D1.8 ALUMINIO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	4000 CSS
FAST FEED:	200.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	27
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	1.8
TIP ANGLE:	118.0



TOOL INFO**T2828: Drilling Tool - BROCA D1.9 ALUMINIO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	4000 CSS
FAST FEED:	200.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	28
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	1.9
TIP ANGLE:	118.0



TOOL INFO**T2929: Drilling Tool - BROCA D2 AÇO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	4000 CSS
FAST FEED:	200.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	29
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	2.0
TIP ANGLE:	118.0



TOOL INFO**T3030: Drilling Tool - BROCA D2.1 AÇO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	4000 CSS
FAST FEED:	200.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	30
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	2.1
TIP ANGLE:	118.0



TOOL INFO**T3030: Drilling Tool - BROCA D2.1 ALUMINIO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	3500 CSS
FAST FEED:	160.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	30
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	2.1
TIP ANGLE:	118.0



TOOL INFO**T3131: Drilling Tool - BROCA D2.2 ALUMINIO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	3500 CSS
FAST FEED:	160.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	31
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	2.2
TIP ANGLE:	118.0



TOOL INFO**T3232: Drilling Tool - BROCA D2.3 ALUMINIO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	3500 CSS
FAST FEED:	160.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	32
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	2.3
TIP ANGLE:	118.0



TOOL INFO**T3333: Drilling Tool - BROCA D2.4 ALUMINIO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	3500 CSS
FAST FEED:	180.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	33
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	2.4
TIP ANGLE:	118.0

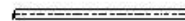
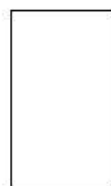
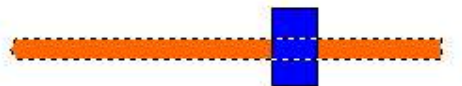


TOOL INFO**T3535: Drilling Tool - BROCA D2.6 ALUMINIO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	5093 CSS
FAST FEED:	203.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	35
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	2.6
TIP ANGLE:	118.0



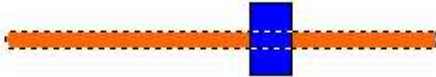
TOOL INFO

T3535: Drilling Tool - BROCA D2.5 ALUMINIO

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	5093 CSS
FAST FEED:	203.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	35
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	2.5
TIP ANGLE:	118.0

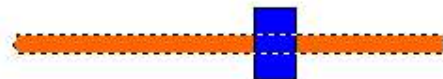


TOOL INFO**T3737: Drilling Tool - BROCA D2.7 ALUMINIO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	5093 CSS
FAST FEED:	203.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	37
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	2.7
TIP ANGLE:	118.0

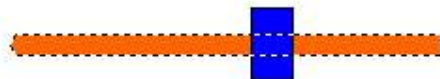


TOOL INFO**T3737: Drilling Tool - BROCA D2.8 ALUMINIO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	5093 CSS
FAST FEED:	203.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	37
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	2.8
TIP ANGLE:	118.0

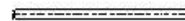
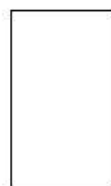
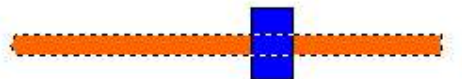


TOOL INFO**T3838: Drilling Tool - BROCA D2.9 ALUMINIO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	5093 CSS
FAST FEED:	203.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	38
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	2.9
TIP ANGLE:	118.0



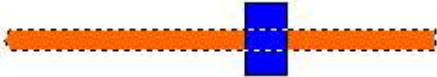
TOOL INFO

T3939: Drilling Tool - BROCA D3 ALUMINIO

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	5093 CSS
FAST FEED:	203.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	39
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	3.0
TIP ANGLE:	118.0

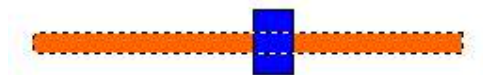


TOOL INFO**T4040: Drilling Tool - BROCA D3.1 ALUMINIO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	5093 CSS
FAST FEED:	203.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	40
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	3.0
TIP ANGLE:	118.0

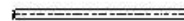
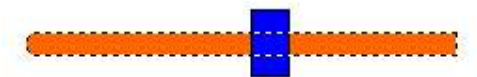


TOOL INFO**T4141: Drilling Tool - BROCA D3.2 ALUMINIO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	3979 CSS
FAST FEED:	517.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	41
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	3.2
TIP ANGLE:	118.0



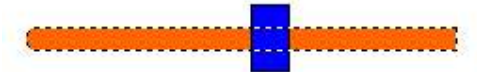
TOOL INFO

T4242: Drilling Tool - BROCA D3.3 ALUMINIO

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	3858 CSS
FAST FEED:	501.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	42
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	3.3
TIP ANGLE:	118.0



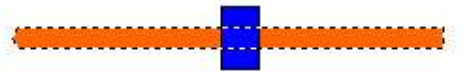
TOOL INFO

T4343: Drilling Tool - BROCA D3.4 ALUMINIO

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	3858 CSS
FAST FEED:	501.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	43
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	3.4
TIP ANGLE:	118.0



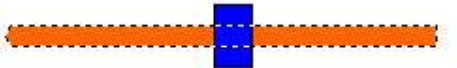
TOOL INFO

T4444: Drilling Tool - BROCA D3.5 ALUMINIO

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	3858 CSS
FAST FEED:	501.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	44
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	3.5
TIP ANGLE:	118.0



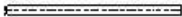
TOOL INFO

T4545: Drilling Tool - BROCA D3.6 ALUMINIO

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	3858 CSS
FAST FEED:	501.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	45
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	3.6
TIP ANGLE:	118.0

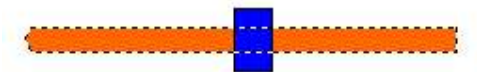


TOOL INFO**T4646: Drilling Tool - BROCA D3.7 ALUMINIO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	3858 CSS
FAST FEED:	501.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	46
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	3.7
TIP ANGLE:	118.0



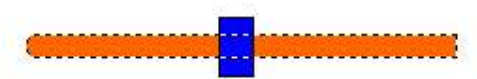
TOOL INFO

T4747: Drilling Tool - BROCA D3.8 ALUMINIO

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	3858 CSS
FAST FEED:	501.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	47
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	3.8
TIP ANGLE:	118.0



TOOL LIST

24-04-2015 15:39

C:\USERS\USER\DESKTOP\FERRAMENTAS TORNO ACO.TOOLDB

FILTERED: YES

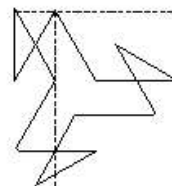
TOOL INFO

T0101: Threading Tool - FERRO DE ROSCA INTERIOR DIREITA AÇO

TOP TURRET: YES
 ACTIVE SPINDLE: Left
 SPINDLE DIRECTION: CCW
 SPINDLE SPEED: 0 RPM
 FAST FEED: 0.0 mm/min
 SLOW FEED: 0.0 mm/min
 OFFSET: 1
 OFFSET (BACK): NA
 INSERT UP: NO
 COOLANT: Off
 TIME: 00:00:00

HOLDER: 266RKF-25-16
 LENGTH: 300.0
 WIDTH: 17.0
 ORIENTATION: Horizontal ANGLE: 0.0
 HAND: Right

INSERT: 266RL-16VM01A002M
 SHAPE: B (82 deg. parallelogram)
 RADIUS: 0.09
 MATERIAL: Carbide

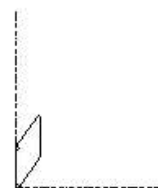
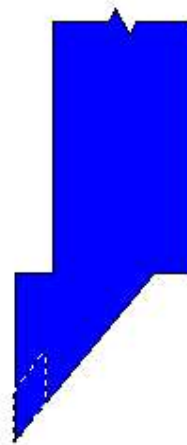


TOOL INFO**T0202: General Turning Tool - FERRO DESBASTE 93° DIREITA AÇO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	320 CSS
FAST FEED:	0.25 mm/min
SLOW FEED:	0.3 mm/min
OFFSET:	2
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	Ferro de Desbaste 93°	
LENGTH:	150.0	
WIDTH:	32.0	
ORIENTATION:	Vertical	ANGLE: 0.0
HAND:	Right	

INSERT:	IC8250
SHAPE:	V (35 deg. diamond)
RADIUS:	0.4
MATERIAL:	Carbide

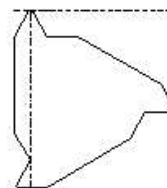


TOOL INFO**T0303: Threading Tool - FERRO ROSCA INTERIOR AÇO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	0 RPM
FAST FEED:	0.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	3
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	R166.0KF -16-1220-11B	
LENGTH:	125.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

INSERT:	R166.0L-11VM01-001
SHAPE:	B (82 deg. parallelogram)
RADIUS:	0.06
MATERIAL:	Carbide



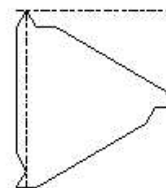
TOOL INFO

T0404: Threading Tool - FERRO DE ROSCA INTERIOR D16 AÇO

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	0 RPM
FAST FEED:	0.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	4
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	R166.0KF -16-1220-11B		
LENGTH:	200.0		
WIDTH:	12.0		
ORIENTATION:	Horizontal	ANGLE:	0.0
HAND:	Right		

INSERT:	266RL-16VM01A001M 1125
SHAPE:	B (82 deg. parallelogram)
RADIUS:	0.06
MATERIAL:	Carbide

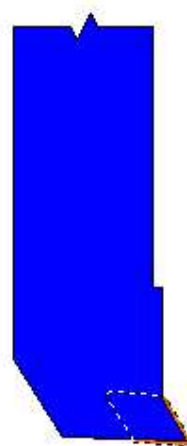


TOOL INFO**T0505: General Turning Tool - FERRO DE DESBASTE ESQ 93° AÇO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	365 CSS
FAST FEED:	0.25 mm/min
SLOW FEED:	0.25 mm/min
OFFSET:	5
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	Ferro de Desbaste DE ESQUERDA	
LENGTH:	270.0	
WIDTH:	32.0	
ORIENTATION:	Vertical	ANGLE: 0.0
HAND:	Left	

INSERT:	TR-DC1308-M
SHAPE:	D (55 deg. diamond)
RADIUS:	0.8
MATERIAL:	Carbide

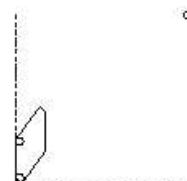
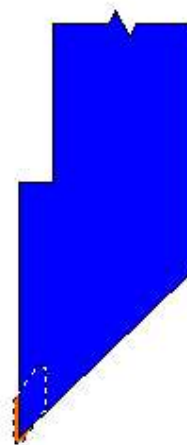


TOOL INFO**T0606: General Turning Tool - Ferro de Desbaste Aço**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	345 CSS
FAST FEED:	0.3 mm/min
SLOW FEED:	0.3 mm/min
OFFSET:	6
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	Ferro de Desbaste 93°	
LENGTH:	150.0	
WIDTH:	32.0	
ORIENTATION:	Vertical	ANGLE: 0.0
HAND:	Right	

INSERT:	VNMG 160408-PM
SHAPE:	V (35 deg. diamond)
RADIUS:	0.8
MATERIAL:	Carbide



TOOL INFO**T0707: General Turning Tool - FERRO DE DESBASTE DE 17.5° AÇO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	250 CSS
FAST FEED:	0.35 mm/min
SLOW FEED:	0.35 mm/min
OFFSET:	7
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	Ferro de Desbaste 93°	
LENGTH:	150.0	
WIDTH:	25.0	
ORIENTATION:	Vertical	ANGLE: 0.0
HAND:	Right	

INSERT:	VBMT16D408NN
SHAPE:	V (35 deg. diamond)
RADIUS:	0.8
MATERIAL:	Carbide



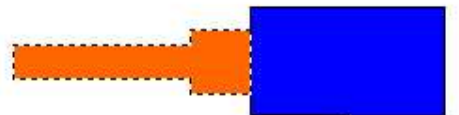
TOOL INFO

T1313: Drilling Tool - BROCA DE PASTILHAS D16 AÇO

TOP TURRET: YES
 ACTIVE SPINDLE: Left
 SPINDLE DIRECTION: CCW
 SPINDLE SPEED: 155 CSS
 FAST FEED: 0.06 mm/min
 SLOW FEED: 0.0 mm/min
 OFFSET: 13
 OFFSET (BACK): NA
 INSERT UP: NO
 COOLANT: Off
 TIME: 00:00:00

HOLDER: —
 LENGTH: 200.0
 WIDTH: 50.0
 ORIENTATION: Horizontal ANGLE: 0.0
 HAND: Right

DRILL: Center Drill
 DIAMETER: 16.0
 TIP ANGLE: 0.0



TOOL INFO

T1414: Drilling Tool - BROCA DE PASTILHAS D29 AÇO

TOP TURRET: YES
 ACTIVE SPINDLE: Left
 SPINDLE DIRECTION: CCW
 SPINDLE SPEED: 155 CSS
 FAST FEED: 0.1 mm/min
 SLOW FEED: 0.0 mm/min
 OFFSET: 14
 OFFSET (BACK): NA
 INSERT UP: NO
 COOLANT: Off
 TIME: 00:00:00

HOLDER: —
 LENGTH: 200.0
 WIDTH: 50.0
 ORIENTATION: Horizontal ANGLE: 0.0
 HAND: Right

DRILL: Center Drill
 DIAMETER: 29.0
 TIP ANGLE: 0.0

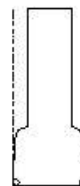


TOOL INFO**T1515: Grooving Tool - SUPORTE FERRO SANGRAR**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	300 CSS
FAST FEED:	0.13 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	15
OFFSET (BACK):	14
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	150.0	
WIDTH:	12.5	
ORIENTATION:	Vertical	ANGLE: 0.0
HAND:	Right	

INSERT:	—
SHAPE:	E (75 deg. diamond)
RADIUS:	0.2
MATERIAL:	Carbide



TOOL INFO**T1616: Grooving Tool - FERRO DE SANGRAR 2.5 AÇO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	140 CSS
FAST FEED:	0.11 mm/min
SLOW FEED:	0.11 mm/min
OFFSET:	16
OFFSET (BACK):	12
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	RF123F10-2020B	
LENGTH:	125.0	
WIDTH:	12.5	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

INSERT:	CM1125
SHAPE:	M (86 deg. diamond)
RADIUS:	0.2
MATERIAL:	Carbide



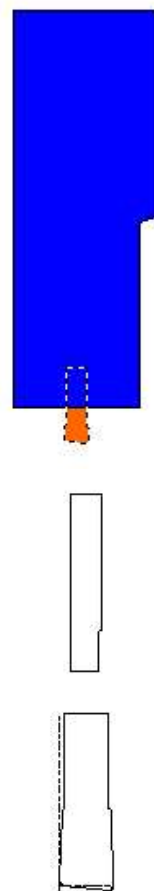
TOOL INFO

T1717: Grooving Tool - FERRO DE SANGRAR AÇO

TOP TURRET: YES
 ACTIVE SPINDLE: Left
 SPINDLE DIRECTION: CCW
 SPINDLE SPEED: 140 CSS
 FAST FEED: 12.0 mm/min
 SLOW FEED: 12.0 mm/min
 OFFSET: 17
 OFFSET (BACK): 16
 INSERT UP: NO
 COOLANT: Off
 TIME: 00:00:00

HOLDER: RF15120-2525-40
 LENGTH: 150.0
 WIDTH: 12.5
 ORIENTATION: Vertical ANGLE: 0.0
 HAND: Right

INSERT: 1125
 SHAPE: M (86 deg. diamond)
 RADIUS: 0.1
 MATERIAL: Carbide



TOOL INFO**T1919: Drilling Tool - BROCA D1 AÇO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	5000 CSS
FAST FEED:	150.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	19
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	1.0
TIP ANGLE:	118.0



TOOL INFO

T2121: Drilling Tool - BROCA D1.1 AÇO

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	4000 CSS
FAST FEED:	150.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	21
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	1.1
TIP ANGLE:	118.0



TOOL INFO

T2121: Drilling Tool - BROCA D1.2 AÇO

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	4000 CSS
FAST FEED:	150.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	21
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	1.2
TIP ANGLE:	118.0



TOOL INFO

T2222: Drilling Tool - BROCA D1.3 AÇO

TOP TURRET: YES
 ACTIVE SPINDLE: Left
 SPINDLE DIRECTION: CCW
 SPINDLE SPEED: 4000 CSS
 FAST FEED: 160.0 mm/min
 SLOW FEED: 0.0 mm/min
 OFFSET: 22
 OFFSET (BACK): NA
 INSERT UP: NO
 COOLANT: Off
 TIME: 00:00:00

HOLDER: —
 LENGTH: 40.0
 WIDTH: 10.0
 ORIENTATION: Horizontal ANGLE: 0.0
 HAND: Right

DRILL: Center Drill
 DIAMETER: 1.3
 TIP ANGLE: 118.0



TOOL INFO

T2323: Drilling Tool - BROCA D1.4 AÇO

TOP TURRET: YES
 ACTIVE SPINDLE: Left
 SPINDLE DIRECTION: CCW
 SPINDLE SPEED: 4000 CSS
 FAST FEED: 160.0 mm/min
 SLOW FEED: 0.0 mm/min
 OFFSET: 23
 OFFSET (BACK): NA
 INSERT UP: NO
 COOLANT: Off
 TIME: 00:00:00

HOLDER: —
 LENGTH: 40.0
 WIDTH: 10.0
 ORIENTATION: Horizontal ANGLE: 0.0
 HAND: Right

DRILL: Center Drill
 DIAMETER: 1.4
 TIP ANGLE: 118.0



TOOL INFO**T2424: Drilling Tool - BROCA D1.5 AÇO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	4000 CSS
FAST FEED:	150.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	24
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	1.5
TIP ANGLE:	118.0



TOOL INFO

T2525: Drilling Tool - BROCA D1.6 AÇO

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	4000 CSS
FAST FEED:	150.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	25
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	1.6
TIP ANGLE:	118.0



TOOL INFO**T2626: Drilling Tool - BROCA D1.7 AÇO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	4000 CSS
FAST FEED:	150.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	26
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	1.7
TIP ANGLE:	118.0



TOOL INFO**T2727: Drilling Tool - BROCA D1.8 AÇO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	4000 CSS
FAST FEED:	150.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	27
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	1.8
TIP ANGLE:	118.0



TOOL INFO**T2828: Drilling Tool - BROCA D1.9 AÇO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	3500 CSS
FAST FEED:	150.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	28
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	1.9
TIP ANGLE:	118.0



TOOL INFO**T2929: Drilling Tool - BROCA D2 AÇO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	3500 CSS
FAST FEED:	160.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	29
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	2.0
TIP ANGLE:	118.0



TOOL INFO**T3030: Drilling Tool - BROCA D2.1 AÇO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	4000 CSS
FAST FEED:	200.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	30
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	2.1
TIP ANGLE:	118.0



TOOL INFO**T3131: Drilling Tool - BROCA D2.2 AÇO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	4000 CSS
FAST FEED:	200.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	31
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	2.2
TIP ANGLE:	118.0



TOOL INFO**T3232: Drilling Tool - BROCA D2.3 AÇO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	4000 CSS
FAST FEED:	200.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	32
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	2.3
TIP ANGLE:	118.0



TOOL INFO**T3434: Drilling Tool - BROCA D2.4 AÇO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	4100 CSS
FAST FEED:	220.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	34
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	2.4
TIP ANGLE:	118.0

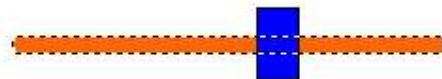


TOOL INFO**T3535: Drilling Tool - BROCA D2.5 AÇO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	4138 CSS
FAST FEED:	165.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	35
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	2.5
TIP ANGLE:	118.0



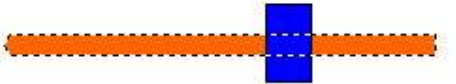
TOOL INFO

T3636: Drilling Tool - BROCA D2.6 AÇO

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	4138 CSS
FAST FEED:	165.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	36
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	2.6
TIP ANGLE:	118.0



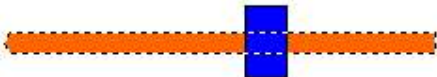
TOOL INFO

T3737: Drilling Tool - BROCA D2.8 AÇO

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	4138 CSS
FAST FEED:	165.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	37
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	2.8
TIP ANGLE:	118.0



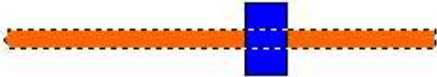
TOOL INFO

T3737: Drilling Tool - BROCA D2.7 AÇO

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	4138 CSS
FAST FEED:	165.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	37
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	2.7
TIP ANGLE:	118.0

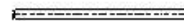
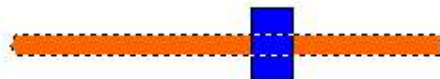


TOOL INFO**T3838: Drilling Tool - BROCA D2.9 AÇO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	4138 CSS
FAST FEED:	165.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	38
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	2.9
TIP ANGLE:	118.0

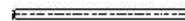
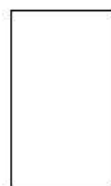
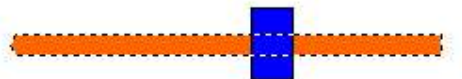


TOOL INFO**T3939: Drilling Tool - BROCA D3 AÇO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	4138 CSS
FAST FEED:	165.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	39
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	3.0
TIP ANGLE:	118.0



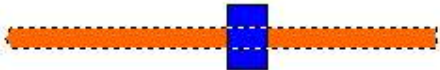
TOOL INFO

T4040: Drilling Tool - BROCA D3.1 AÇO

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	4138 CSS
FAST FEED:	165.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	40
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	3.1
TIP ANGLE:	118.0



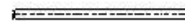
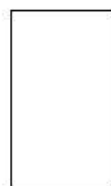
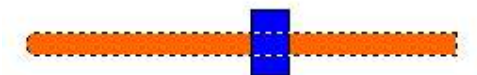
TOOL INFO

T4141: Drilling Tool - BROCA D3.2 AÇO

TOP TURRET: YES
 ACTIVE SPINDLE: Left
 SPINDLE DIRECTION: CCW
 SPINDLE SPEED: 4138 CSS
 FAST FEED: 165.0 mm/min
 SLOW FEED: 0.0 mm/min
 OFFSET: 41
 OFFSET (BACK): NA
 INSERT UP: NO
 COOLANT: Off
 TIME: 00:00:00

HOLDER: —
 LENGTH: 40.0
 WIDTH: 10.0
 ORIENTATION: Horizontal ANGLE: 0.0
 HAND: Right

DRILL: Center Drill
 DIAMETER: 3.2
 TIP ANGLE: 118.0



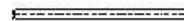
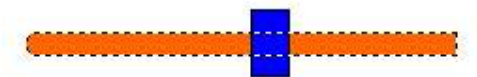
TOOL INFO

T4242: Drilling Tool - BROCA D3.3 AÇO

TOP TURRET: YES
 ACTIVE SPINDLE: Left
 SPINDLE DIRECTION: CCW
 SPINDLE SPEED: 3135 CSS
 FAST FEED: 407.0 mm/min
 SLOW FEED: 0.0 mm/min
 OFFSET: 42
 OFFSET (BACK): NA
 INSERT UP: NO
 COOLANT: Off
 TIME: 00:00:00

HOLDER: —
 LENGTH: 40.0
 WIDTH: 10.0
 ORIENTATION: Horizontal ANGLE: 0.0
 HAND: Right

DRILL: Center Drill
 DIAMETER: 3.3
 TIP ANGLE: 118.0



TOOL INFO

T4343: Drilling Tool - BROCA D3.4 AÇO

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	3135 CSS
FAST FEED:	407.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	43
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	3.4
TIP ANGLE:	118.0



TOOL INFO

T4444: Drilling Tool - BROCA D3.5 AÇO

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	3135 CSS
FAST FEED:	407.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	44
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	3.5
TIP ANGLE:	118.0



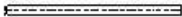
TOOL INFO

T4545: Drilling Tool - BROCA D3.6 AÇO

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	3135 CSS
FAST FEED:	407.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	45
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	3.6
TIP ANGLE:	118.0

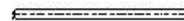
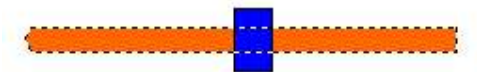


TOOL INFO**T4646: Drilling Tool - BROCA D3.7 AÇO**

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	3135 CSS
FAST FEED:	407.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	46
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	3.7
TIP ANGLE:	118.0



TOOL INFO

T4747: Drilling Tool - BROCA D3.8 AÇO

TOP TURRET:	YES
ACTIVE SPINDLE:	Left
SPINDLE DIRECTION:	CCW
SPINDLE SPEED:	3135 CSS
FAST FEED:	407.0 mm/min
SLOW FEED:	0.0 mm/min
OFFSET:	47
OFFSET (BACK):	NA
INSERT UP:	NO
COOLANT:	Off
TIME:	00:00:00

HOLDER:	—	
LENGTH:	40.0	
WIDTH:	10.0	
ORIENTATION:	Horizontal	ANGLE: 0.0
HAND:	Right	

DRILL:	Center Drill
DIAMETER:	3.8
TIP ANGLE:	118.0

