tte
technical tools and equipment

DEVELOPED
& DESIGNED
IN ITALY

BOOSTER

HFRM HIGH FEED REMOVE MATERIAL

WWW.TTETEC.EU

168.18.10

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technical tools and equipment

Why you should choose Booster line :

RELIABLE- *UNATTENDED ROUGHING OPERATION*

HIGH PRODUCTIVITY

FLEXIBLE – *MANY APPLICATION AREAS*

UNIQUE INSERT SIZE

5 DIFFERENT GEOMETRIES

NEW CONCEPT OF HFRM

LATEST TECHNOLOGY

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LOW CUTTING FORCES

High cutting feed also using long cutters

Very low noise

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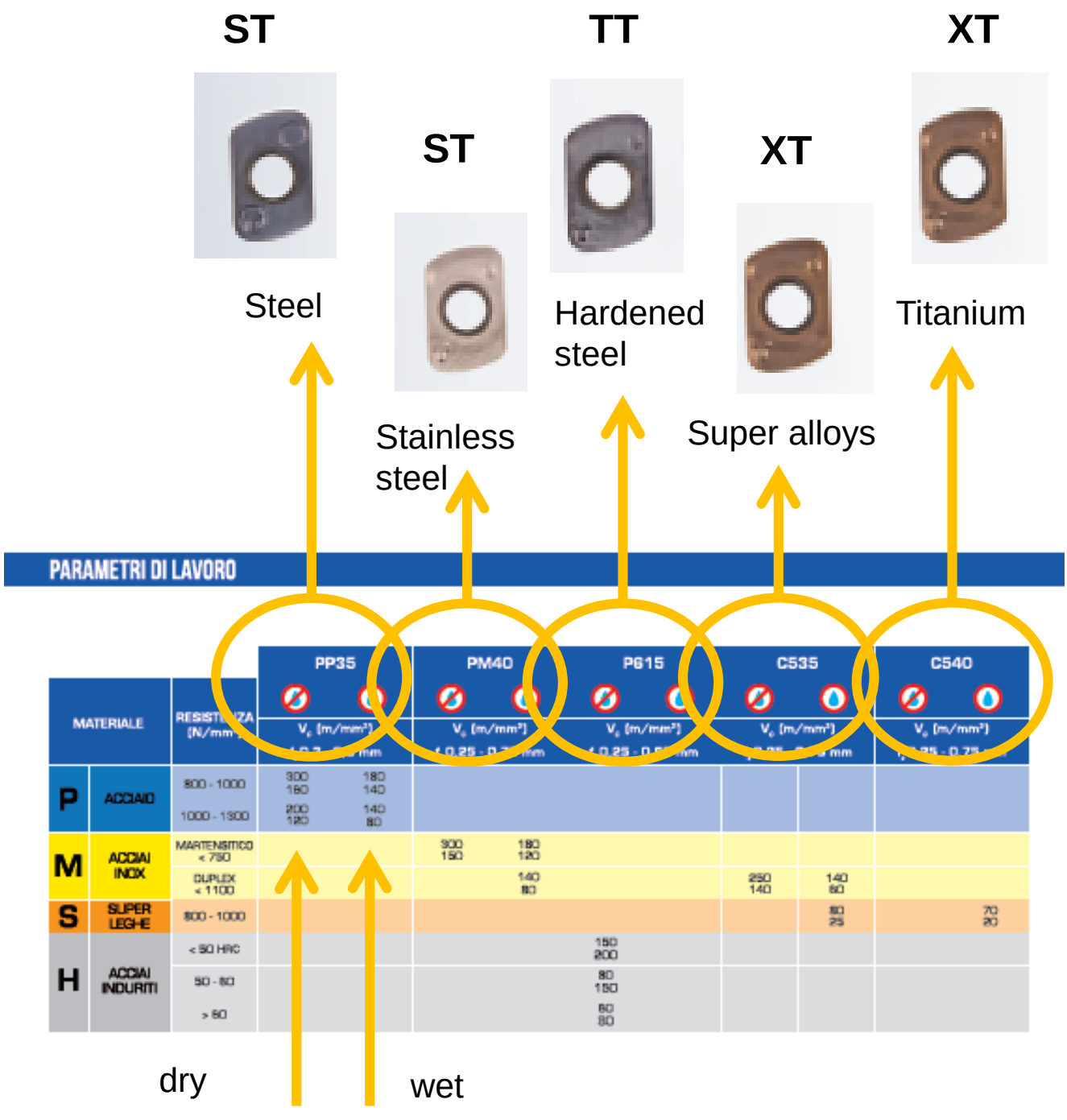
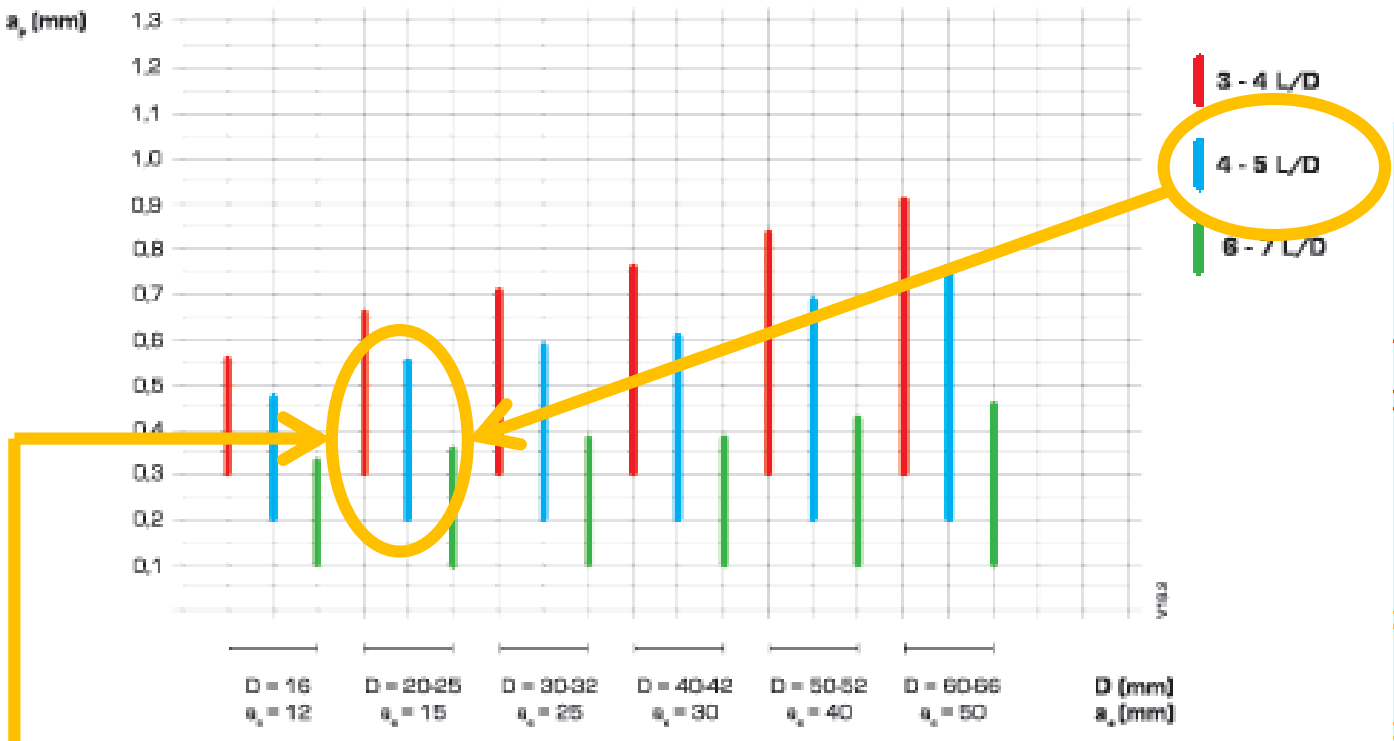
1° Step



2° Step

Depending on cutter diameter in use , and it's length choose the cutting depth .

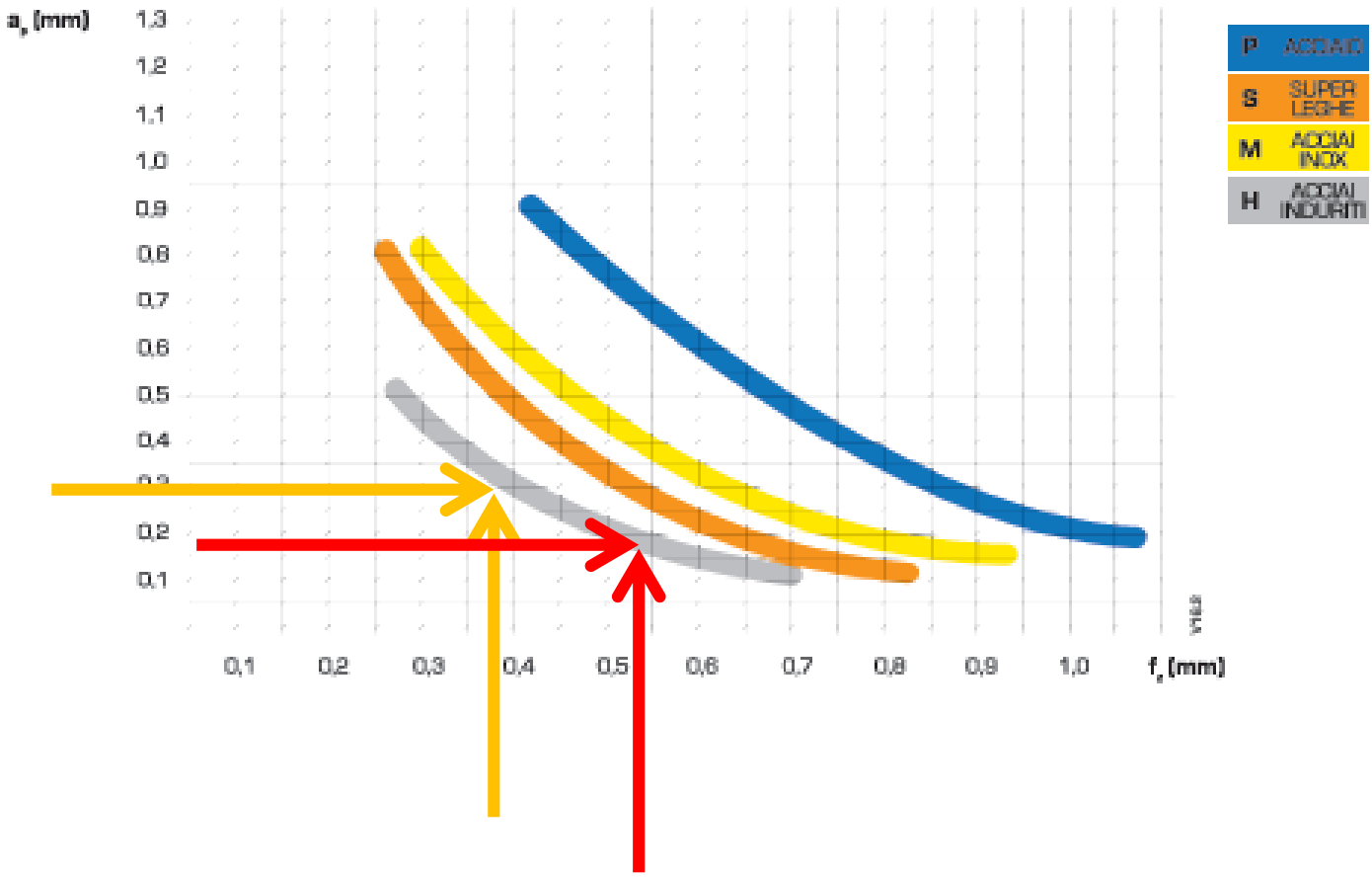


Es: Cutter d. 20 x 100 mm = 5 D

Ap … from 0,2 to 0,55 mm

3° Step

Depending on the material , put in relation deep of cut and Fz



Es: Cutter d. 20 x 100 mm = 5 D
Material to work 1,2343 HrC 50

Option 1
Ap = 0,3 Fz = 0,38

Option 2
Ap = 0,2 Fz = 0,55

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4° Step

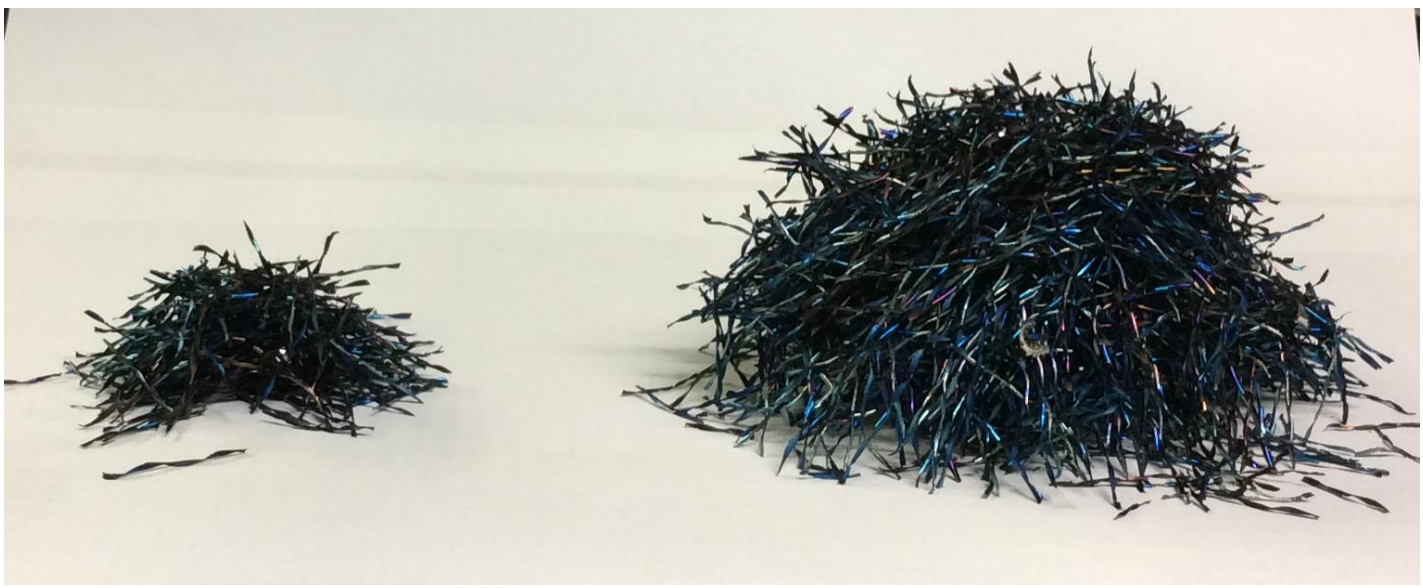
How to compare parameters between TTE and others competitor products

D. 20 Z3 insert EP – Vs -- D. 20 Z2 insert RD

Vt	300	220
S	4700	3500
Fz	0,7	0,4
Ad	0,5	1,5
Rd	12	12
F	9800	2800

???

Which is the solution to increase the productivity ?



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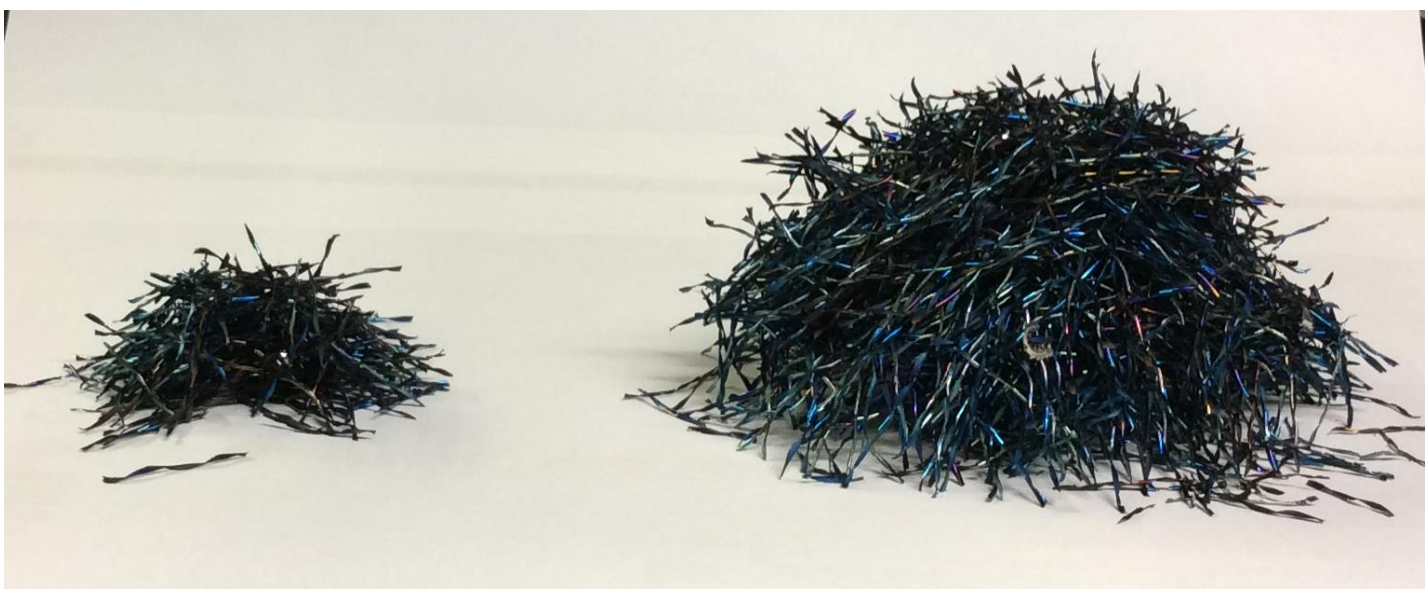
4° Step

$$Vq = F * Ap * Ae / 1000$$

58 Vq 50
Cm3/min



Info tech n° 168

Fe 37

Machine : Deber
Spindle : Din 69871 Iso 50
Material : Fe37
Lubrification : dry

Cutter = C300A-80R09-07
Cutter's length = 80 mm
Insert = EPHT 07..ST PP35
Vt = 200 m/min S = 800 RPM/min
Fz = 0,69 mm/tooth
F = 5000 mm/min
Ae = 68 mm Ad = 0,7 mm
Vq = 238 cm3/min
Time life = 120 min

Dimensions of work piece
2000 x 2200 thickness 70
Oxy cut
strong cut interrupted

Vibration-free machining

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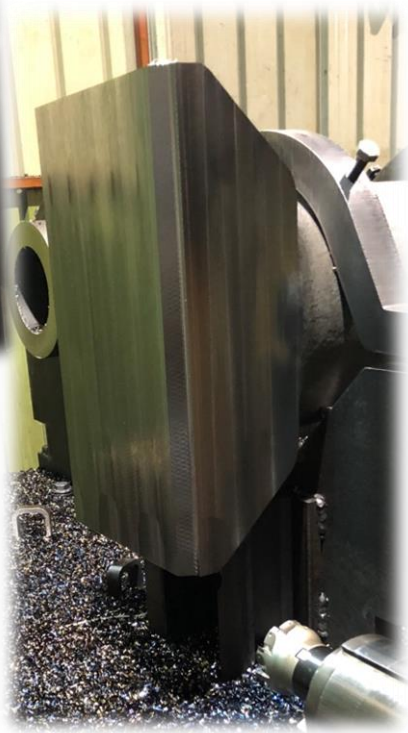
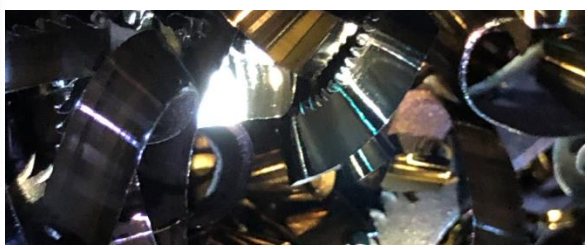
Info tech n° 168

Fe 37

Machine : Boring machine
Spindle: Din 69871 Iso 50
Material : Fe37
Lubrification : dry

Cutter : C300A-80R09-07
Cutter's length : 70 mm
Insert : EPHT 07..HTM PP35
Vt = 225 m/min S= 900 RPM/min
Fz = 0,86 mm/tooth
F= 7000 mm/min
Ae = 68 mm Ap = 1 mm
Vq = 476 cm3/min
Time life = 90 min





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Info tech n° 168

C45

Machine : Makino
Spindle : HSK A 100
Type of chuck : Shrink fit
Material : C45
Cad Cam : Nx
Lubrification : air

Cutter = C300G-32R05-07
Cutter's length = 180 mm
Insert = EPHT 07..ST PP35
Vt = 250 m/min S = 2490 RPM/min
Fz = 0,7 mm/tooth F = 8700 mm/min
Ae = 16 mm Ad = 0,7 mm
Vq = 97 cm3/min
Time life = 210 min

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Info tech n° 168

C40

Machine : Kitamura Bridge center 8
Spindle: BT 50
Type of chuck : face mill arbor
Material: C40
Lubrification: air

Roughing:

Cutter : C300A52R07-07
Insert : EPHT070315-HTM PP35
Vt : 200 m/min
Ap : 1 mm Ae : 35mm
Fz : 0,8 mm S : 1300 RPM/min
Vf : 6900 mm/min

Slotting :

Vt : 200 m/mm
Ap : 1 mm Ae : 52 mm
Fz : 0,8 mm S : 1300 RPM/min
Vf : 6900 mm/min

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Info tech n° 168

C45

Machine : AWEA
Spindle : Din 69871 Iso50
Type of chuck : face mill arbor
Material : C45
Lubrification : air

Work piece
Length = 1400 mm
Slot width = 280 mm
Slot height = 140 mm

Cutter = C300A-52R07-07
Cutter's length = 150 mm
Insert = EPHT 07..HTM PP35
Vt = 250 m/min S = 1500 RPM/min
Fz = 0,9 mm/tooth F = 9600 mm/min
Ae = 40 mm Ad = 1 mm
Vq = 384 cm3/min
Time life = 75 min

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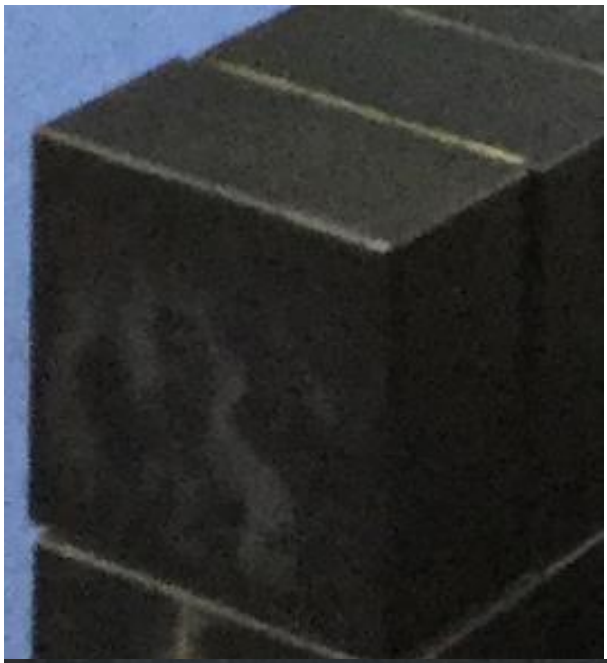
Info tech n° 168

C45



Machine : DOOSAN
Spindle : Din 69871 Iso 40
Material : C45
Cad Cam :
Lubrification : dry

Cutter = C300A-40R06-07
Cutter's lenght = 60 mm
Insert = EPHT 07..ST PP35
Vt = 300 m/min S = 2400 RPM/min
Fz = 1 mm/tooth F = 14000 mm/min
Ae = 40 mm Ad = 0,7 mm
Vq = 392 cm3/min

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Info tech n° 168

C45

Machine : Boring machine UTITA
Spindle : Din 69871 Iso 50
Material : C45
Spindle power : 35 Kw
Lubrification : dry

Cutter = C300A-80R09-07
Cutter's length = 250 mm
Insert = EPHT 07..ST PP35
Vt = 250 m/min S = 1000 RPM/min
Fz = 0,66 mm/tooth
F = 6000 mm/min
Ae = 70 mm Ap = 1 mm
Vq = 420 cm3/min
Time life = 150 min

Even in precarious condition you can use high cutting data ensuring a high reliability and life of the insert

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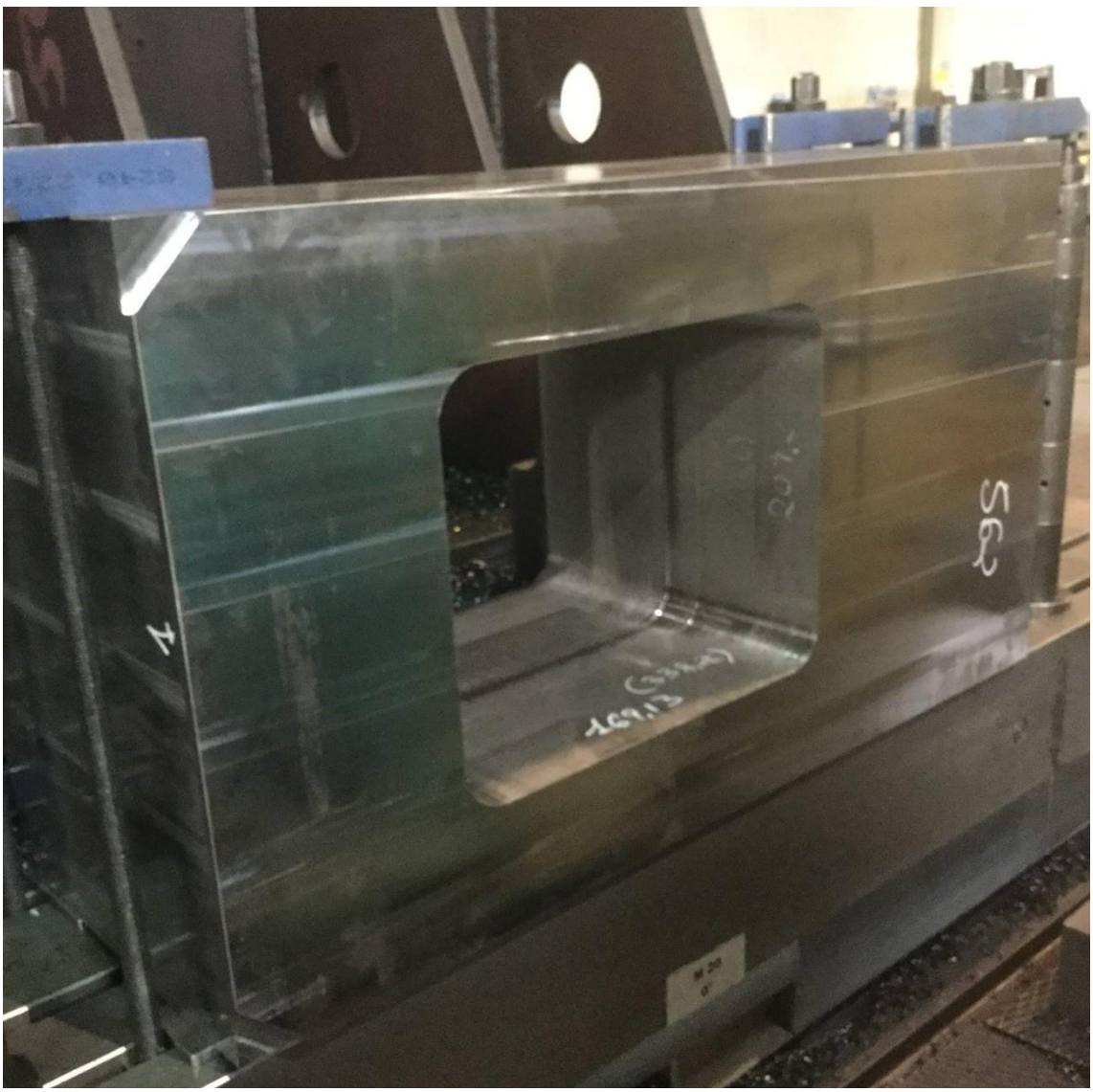
Info tech n° 168

18 NCD5 – 18NiCrMo5

Machine : MEVAL
Spindle : Din 69871 Iso 50
Material : 18NiCrMo5
Lubrification : dry

Cutter = C300A-66R08-07
Cutter's length = 260 mm
Insert = EPHT 07..ST PP35
Vt = 200 m/min S = 960 RPM/min
Fz = 0,7 mm/tooth F = 5400 mm/min
Ae = 40 mm Ap = 0,8 mm
Time life = 270 min



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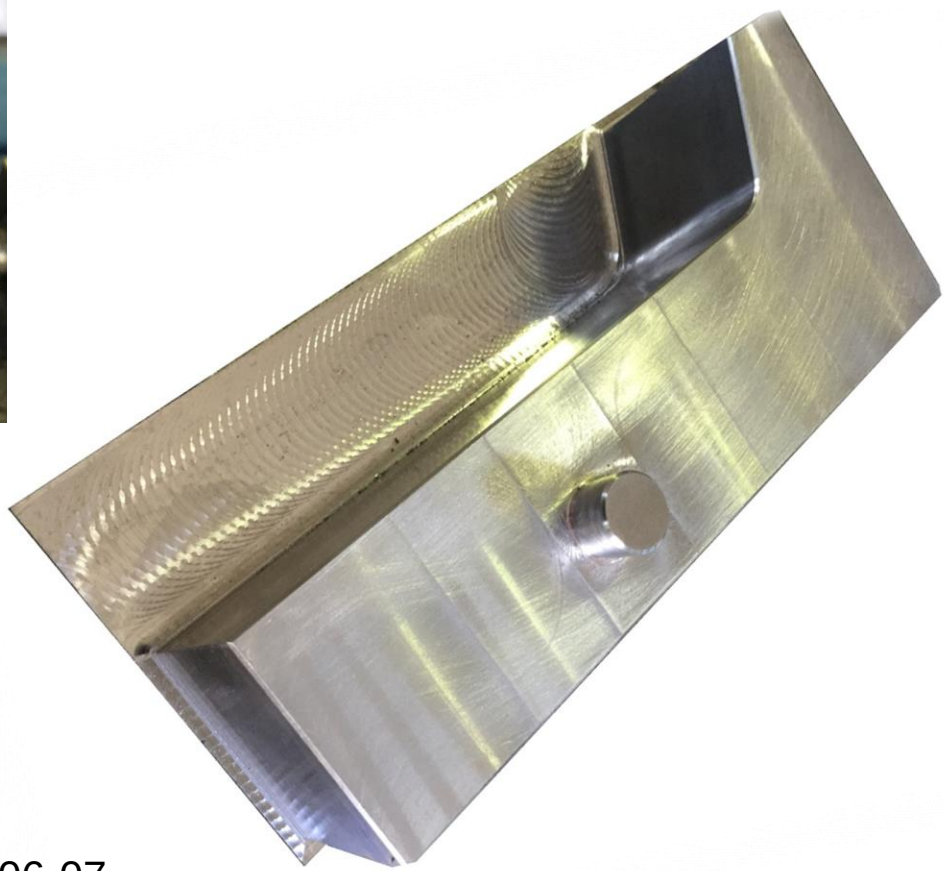
Info tech n° 168

38NiCrMo4

Machine : HURCO VMX24
Spindle : Din 69871 Iso 40
Material : 38NiCrMo4
Lubrification : air



Cutter = C300G-42R06-07
Cutter's length = 80 mm
Insert = EPHT 07..ST PP35
Vt = 260 m/min S = 2000 RPM/min
Fz = 0,5 mm/tooth F = 6000 mm/min
Ae = 33/4 mm Ap = 0,5 mm
Time life= 168 min

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Info tech n° 168

Hardox 450

Machine : YCM
Spindle : BT 50
Material : Hardox 450
Lubrification : dry

Height of work piece = 50 mm

Cutter = C300G-25R04-07
Cutter's length = 70 mm
Insert = EPHW 07..TT P615
Vt = 135 m/min S = 1700 RPM/min
Fz = 1 mm/tooth F = 6800 mm/min
Ae = 7 mm Ap = 0,5 mm
Time life= 60 min

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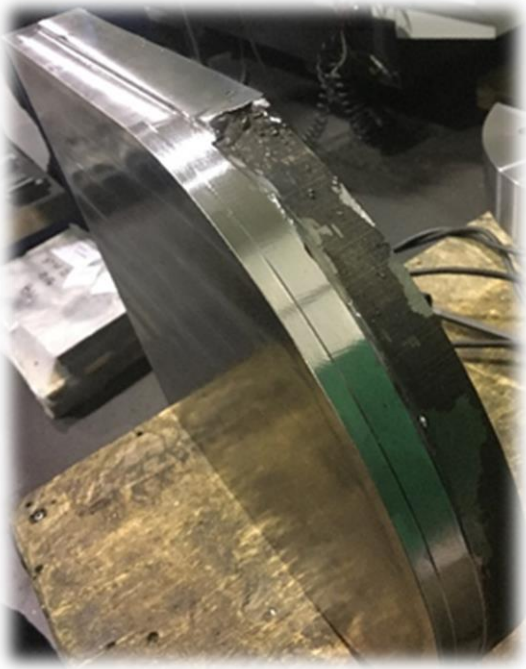
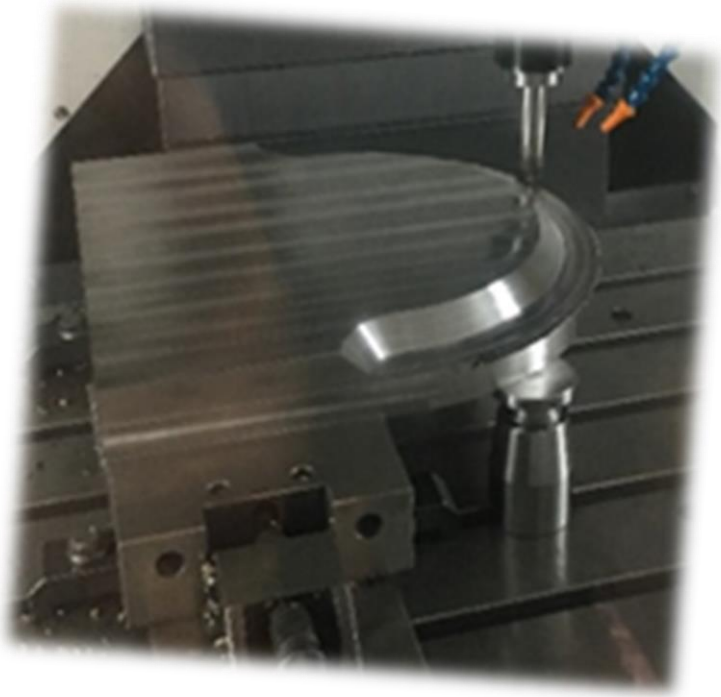
Info tech n° 168

CREUSABRO 8000



Machine: GF
Spindle : BT 40
Type of chuck : Weldon
Material : CREUSABRO 8000 welding
CARBOFIL A 6000
Lubrification : air



Cutter : C300C-25R04-07 l1=70 mm
Insert : EPHT-070315-ST PP35

Vc = 150 m/min
N = 1900 RPM/min
Vf = 3000 mm/min

Fz = 0,5 mm/tooth
Ap = 0,3-0,5 for the presence of crust forge
Ae = 43 mm

Piece size : 360 x 380mm
Time life : 2.30 h

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Info tech n° 168

AISI 304L

Machine : work's center
Spindle : Din 69871 Iso 40
Type of chuck : Weldon
Material : AISI 304L
Lubrification : air

Cutter = C300C-32R05-07
Cutter's length = 80 mm
Insert = EPHT 07..XT C540
Vt = 180 m/min S = 1800 RPM/min
Fz = 0,33 mm/tooth F = 3000 mm/min
Ae = 32 mm Ap = 0,6 mm
Vq = 57 cm3/min
Time life = 75 min

With Booster the customer reduced cycle time of 45%

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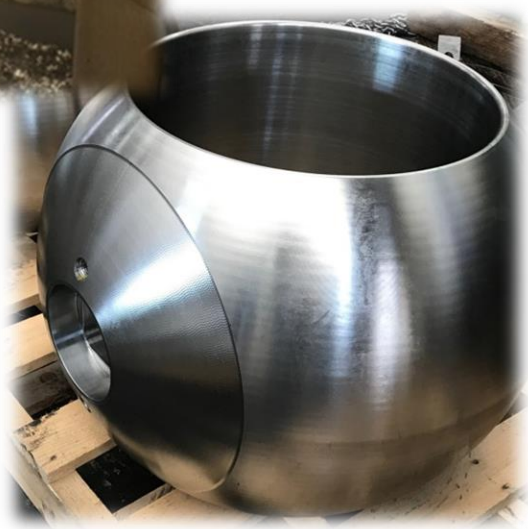
Info tech n° 168

AISI 316

Machine : VICTOR
Spindle : Bt 50
Type of chuck : ER 40
Material : AISI 316
Lubrification : emulsion



Cutter : C300C-32R05-07
Lenght cutter : 120 mm
Insert : EPHT 07..XT C540
Vt = 220 m/min S= 2200
Fz = 0,7 mm/tooth F= 7700 mm/min
Ap = 4-6 mm Ap = 0,6 mm
Time life = 50 min

With the same milling cutter the customer was able to carry out the external contouring of the valve and the roughing of the Quarry. With the C540 quality it was possible to realize the workings of both the right and left side of the valve without turning the Inserts. With Booster technology The customer has halved the cycle time

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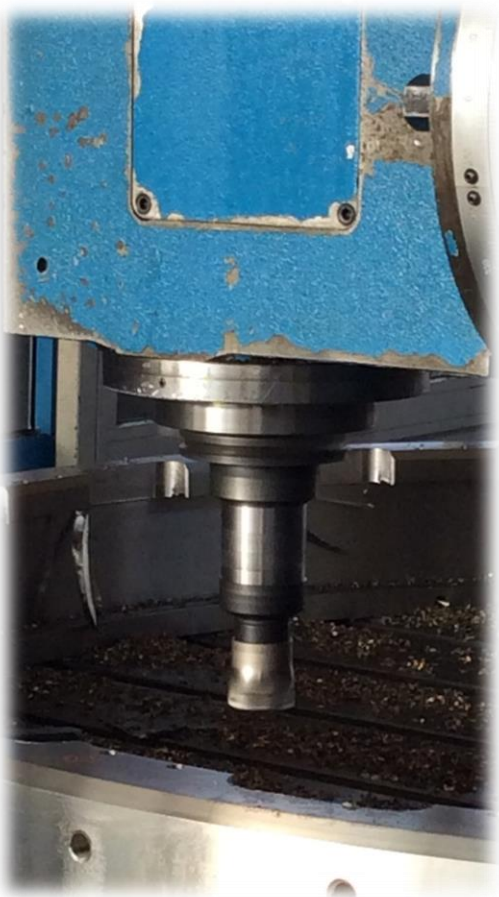
Info tech n° 168

AISI 316L *forged*

Machine : Boring machine
Spindle : Din 69871 Iso 50
Type of chuck : modular
Material : AISI 316L forged
Lubrification : air



Cutter = C300A-40R06-07
Cutter's length = 160 mm
Insert = EPHT 07..XT C540
Vt = 250 m/min S = 2000 RPM/min
Fz = 0,64 mm/tooth F = 7600 mm/min
Ae = 31,5 mm Ap = 0,5 mm
Vq = 119 cm3/min
Time life = 47 min

NOTE :This type of material tends to stick . Quality C540 is better than C535 because has an antifriction coating , and this helps to avoid stickness of chips on cutting edge .
It's important to use a high Vt with air .

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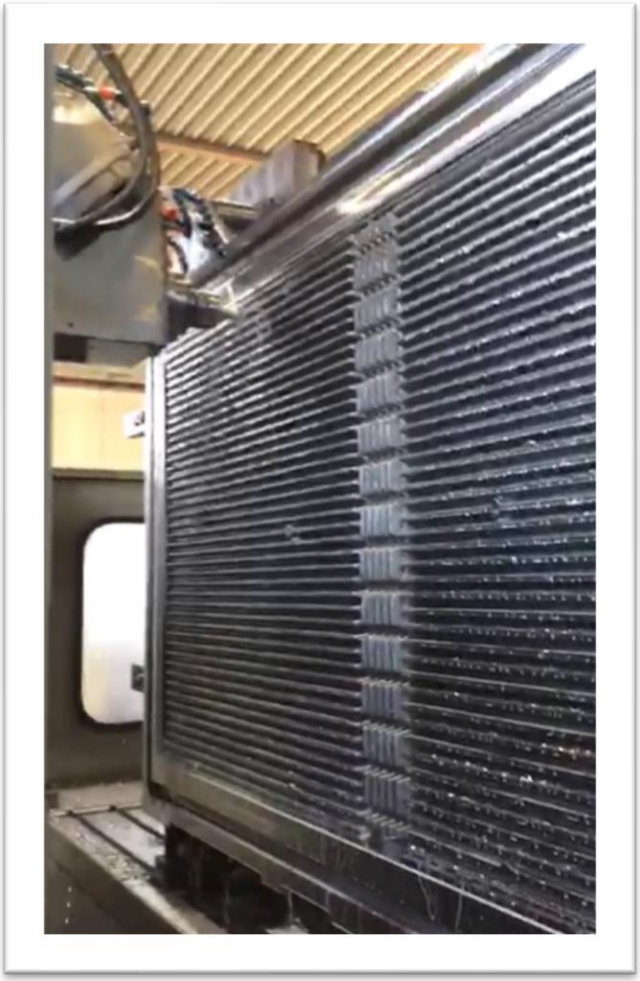
AISI 316L



Machine : Boring machine
Spindle : Din 69871 Iso 50
Type of chuck : Power chuck
Material : AISI 316L
Lubrification : emulsion

Dimentions work piece : 1800 x 600

Cutter = C300C-25R04-07
Cutter's length = 40 mm
Insert = EPHT 07..XTM C540
Vt = 100 m/min S = 1280 RPM/min
Fz = 0,6 mm/tooth F = 3000 mm/min
Ae = 10 mm Ap = 0,5 mm
Time life > 70 min

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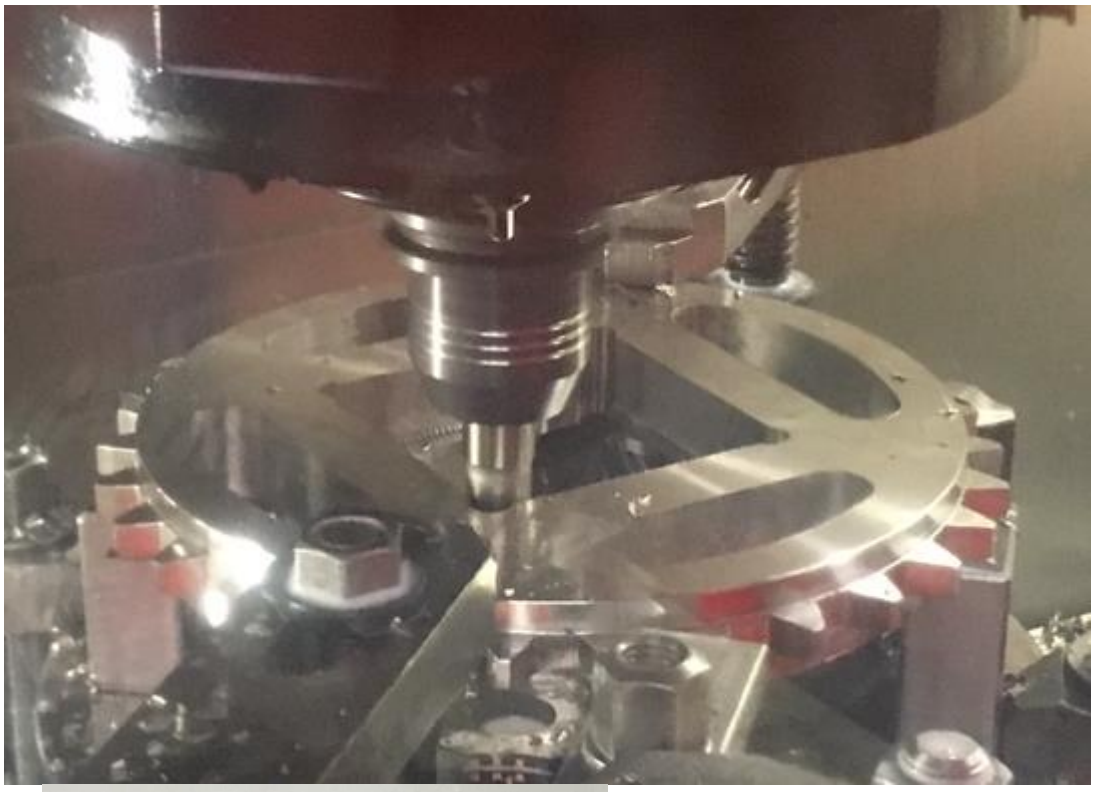
Info tech n° 168

AISI 420

Machine : Sigma
Spindle : Din 69871 Iso 40
Type of chuck : Idraulic
Material : AISI 420
Lubrification : air



Cutter = C300C-20R03-07
Cutter's length = 80 mm
Insert = EPHT 07..ST PM40
Vt = 260 m/min S = 4100 RPM/min
Fz = 0,8 mm/tooth F = 10000 mm/min
Ae = 20 mm Ap = 0,6 mm
Vq = 120 cm3/min
Time life = 80 min

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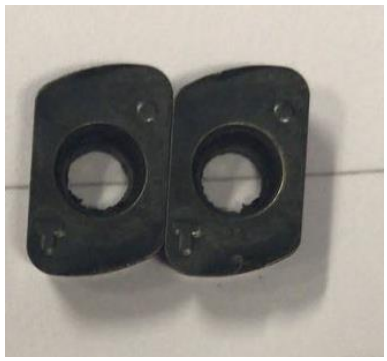
Info tech n° 168

AISI 420

Rough d 200 H 40

Machine : MORI SEIKY
Spindle : HsK A 63
Type of chuck : ER
Material : Aisi 420
Lubrification: emulsion



Insert condition with 80 min

Cutter : C300A-50R07-07
Cutter lengh : 100 mm
Insert : EPHT 070315 ST PM40
Vt = 230 m/min S= 1460 RPM/min
Fz = 0,68 mm/tooth F= 7000 mm/min
Ae = 20-50 mm Ap = 0,8 mm

Time life : 80 min

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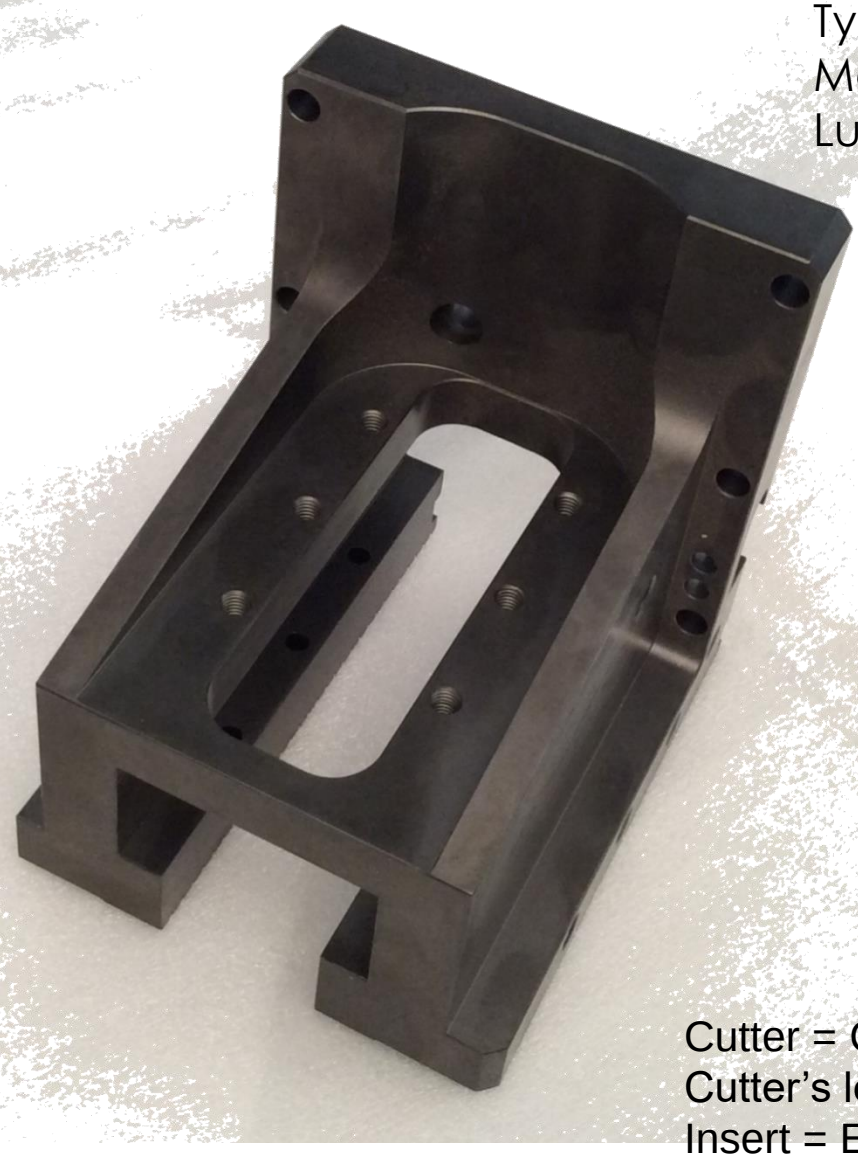
Info tech n° 168

15-5Ph

Machine : AWEA
Spindle : Din 69871 Iso 40
Type of chuck : power chuck
Material : 15-5Ph
Lubrification : air



Cutter = C300C-25R04-07
Cutter's length = 80 mm
Insert = EPHT 07..ST PM40
Vt = 250 m/min S = 3200 RPM/min
Fz = 0,31 mm/tooth F = 4000 mm/min
Ae = 12-25 mm Ap = 0,4 mm
Vq = 40 cm3/min
Time life = 120 min

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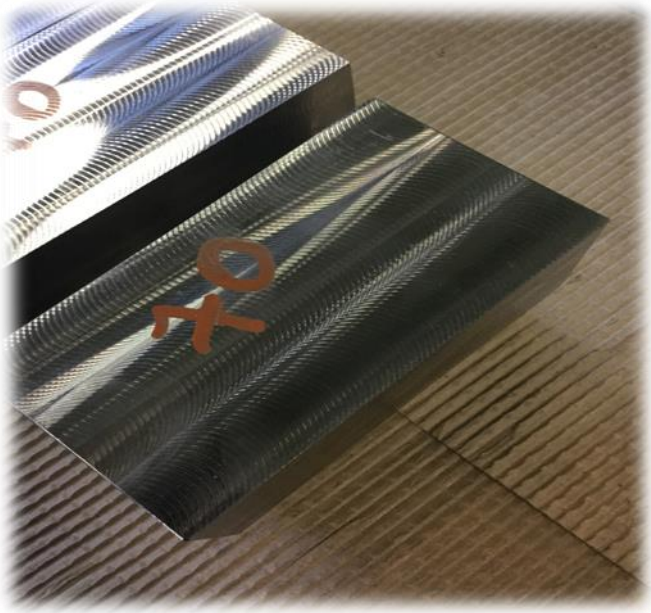
17-4 PH



Machine : ERMLE C40U

Spindle : HSK A 63
Type of chuck : Threaded extension
Material : 17-4Ph
Lubrification : air

Time life = 90 min

Cutter = C300G 20 R3 07
Cutter's length = 60 mm
Insert = EPHT 07..XT C540
Vt = 120 m/min S = 1900 RPM/min
Fz = 0,5 mm/tooth F = 2850 mm/min
Ae = 9 mm Ap = 0,45 mm
Time life = 90 min

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Info tech n° 168

17-4 Ph *aged*

Machine : DMG
Spindle : HSK A 63
Type of chuck : Threaded extension
Material : 17-4Ph **aged**
320 HB
Lubrification : air

Cutter = C300C-35R05-07
Cutter's length = 120 mm
Insert = EPHT 07..XT C540
Vt = 120 m/min S = 1100 RPM/min
Fz = 0,5 mm/tooth F = 2800 mm/min
Ae = 35 mm Ap = 0,4 mm
Vq = 39 cm3/min
Time life = 70 min

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Info tech n° 168

Titanium

Machine : Feeler0
Spindle : Iso 50
Type of chuck : power chuck
Material : Ti6Al-4V
Lubrification : emulsion

Cutter = C300G-32R05-07
Cutter's length = 95 mm
Insert = EPHT 07..XT C540
Vt = 85 m/min S = 845 RPM/min
Fz = 0,45 mm/tooth F = 1900 mm/min
Ae = 20 mm Ap = 0,5 mm
Vq = 19 cm3/min
Time life = 110 min

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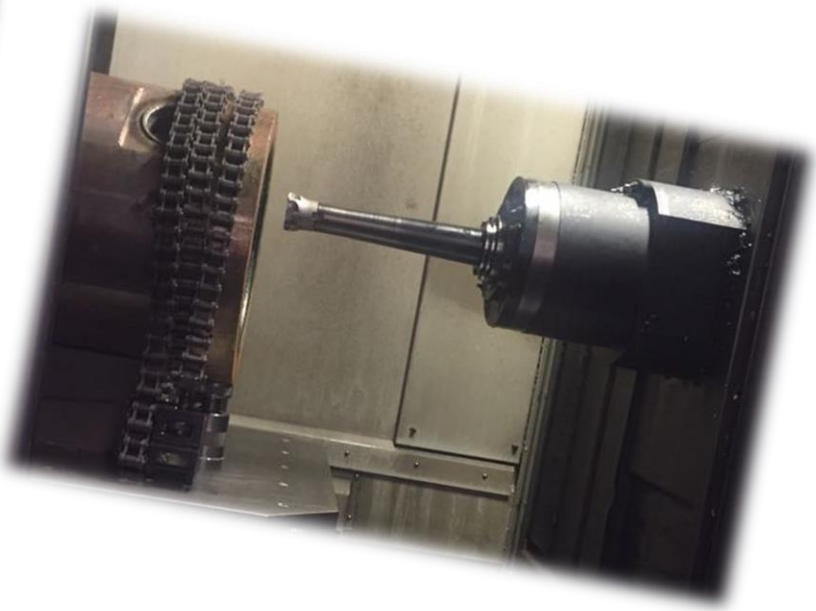
Info tech n° 168

INCONEL 625

Machine : DOOSAN NHM 8000
Spindle : Din 69871 iso 50
Type of chuck : face mill arbor
Material : Inconel 625
Lubrification : emulsion



Roughing

Cutter : C300A66-R08-07

Cutter Lengh : 450 mm
Inserto : EPHT-070315XT 540
Vt : 60 m/min
Fz : 0,5 mm
Diameter of hole : 300 mm
Deep of hole : 430 mm
Vf: 1200 mm/min

Ae : 3 mm
Ap : 1 mm for the first 150 mm, then 280 mm
Ap = 0,5 mm with the same values

Time of work for one piece : 70 min

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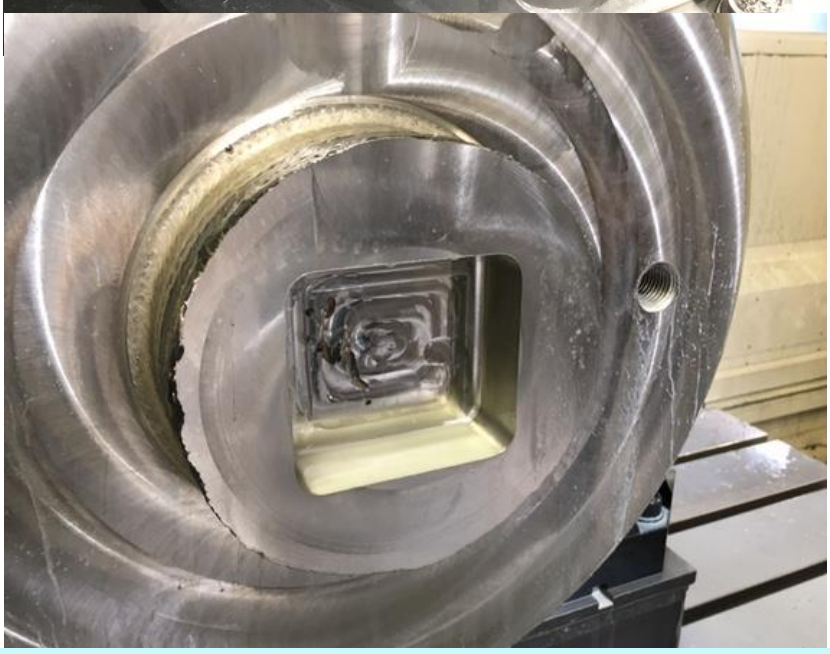
Info tech n° 168

Inconel 625

Machine : Doosan
Spindle : Din 69871 Iso 50
Type of chuck : Weldon
Material : Inconel 625
Lubrification : Emulsion



Cutter = C300C-25R04-07
Cutter's length = 60 mm
Insert = EPHT 07..XT C540
Vt = 40 m/min
S = 500 RPM/min
Fz = 0,35 mm/tooth
F = 700 mm/min
Ae = 10 mm Ap = 0,6 mm
Time life = 70 min

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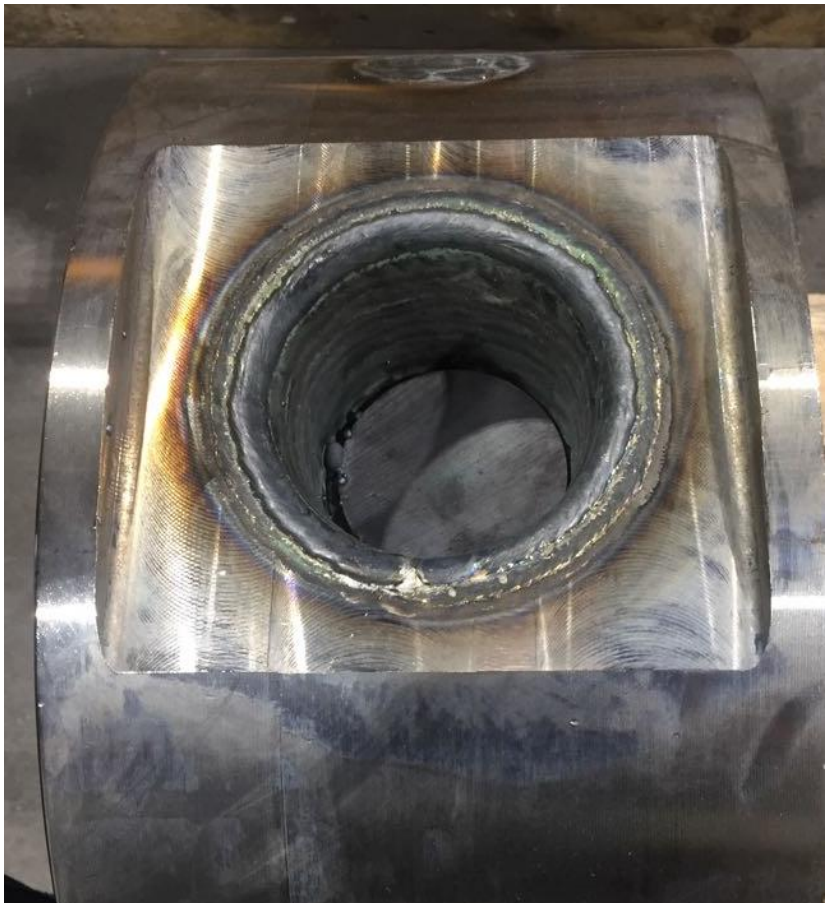
Info tech n° 168

F22 + Inconel 625

Machine : Doosan
Spindle : Din 69871 Iso 40
Type of chuck : face mill arbor
Material : F22 plus Inconel 625
Lubrification : Emulsion



Machining by helical hole interpolation
d. 120 x 110 altezza

Cutter : C300A-40R06-07
Length cutter : 120 mm
Insert : EPHT 07..XT C540
Vt = 60 m/min S= 480 RPM/min
Fz = 0,5 mm/tooth
F= 1440 mm/min
Ae = 1,8-2,7 mm Ap = 0,5 mm
Time life = 25 min

Rough-cut

Cutter : C300A-40R06-07
Length cutter : 120 mm
Insert : EPHT 07..XT C540
Vt = 60 m/min S= 480 RPM/min
Fz = 0,5 mm/tooth
F= 1440 mm/min
Ae = 25 mm Ap = 0,6 mm

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Info tech n° 168

Inconel 625

DRILLING IN PLUNGE

Machine : TOS
Spindle : Din 69871 Iso 50
Type of chuck : ER
Material : Inconel 625
Lubrification : Emulsion

Cutter = C300C-25R04-07
Cutter's length = 120 mm
Insert = EPHT 07..XT C540
Vt = 40 m/min
S = 500 RPM/min
Fz = 0,07 mm/tooth
F= 140 mm/min
Ae = 25 mm
Ap = 3 mm
Time life = 20 min

Slot size
25 x 50
H = 120 mm

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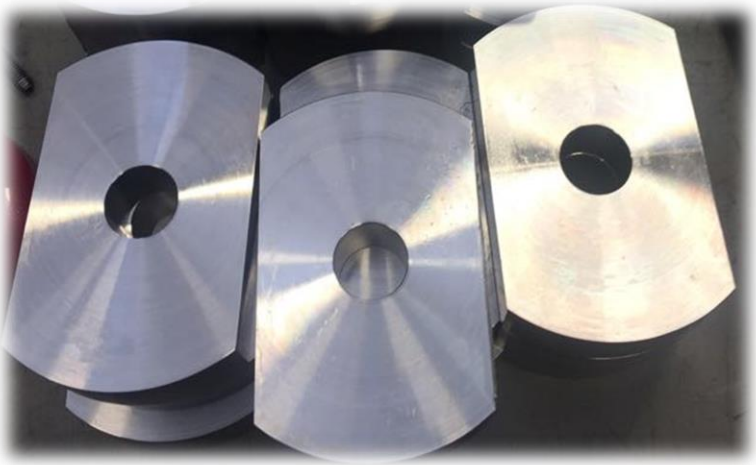
Info tech n° 168

INCONEL 625



Machine : vertical machining center
Spindle: DIN 69871
Type of chuck : Thread
Material : inconel 625
Lubrification : emulsion

Rough-cut :

Cutter : C300C-25R04-07
Insert : EPHT-070315 XT C540

Vt : 60 m/min
Ap : 0,5 mm
Fz : 0,5 mm
Vf : 1650 mm/min

Ae : variable
S : 828 RPM/min

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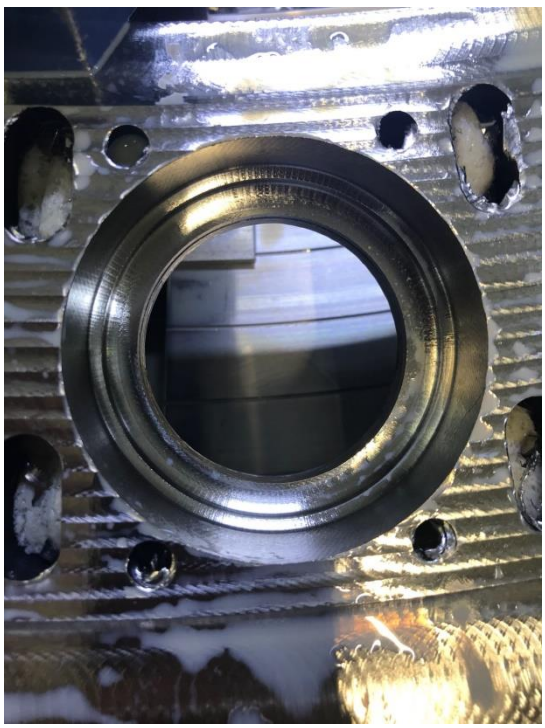
Info tech n° 168

INCONEL 718

Starting hole d. 30

Machine : DMG
Spindle : HsK A 63
Type of chuck: ER
Material : Inconel 718
Lubrification : Emulsion 10%

Inserto dopo 44 min



Cutter : C300C-20R03-07
Length cutter : 45 mm
Insert : EPHT 070515 XT C540
Vt = 45 m/min S= 716 RPM/min
Fz = 0,35 mm/tooth F= 797 mm/min
Ae = 9 mm Ap = 0,5 mm
Insert contact time 44 min

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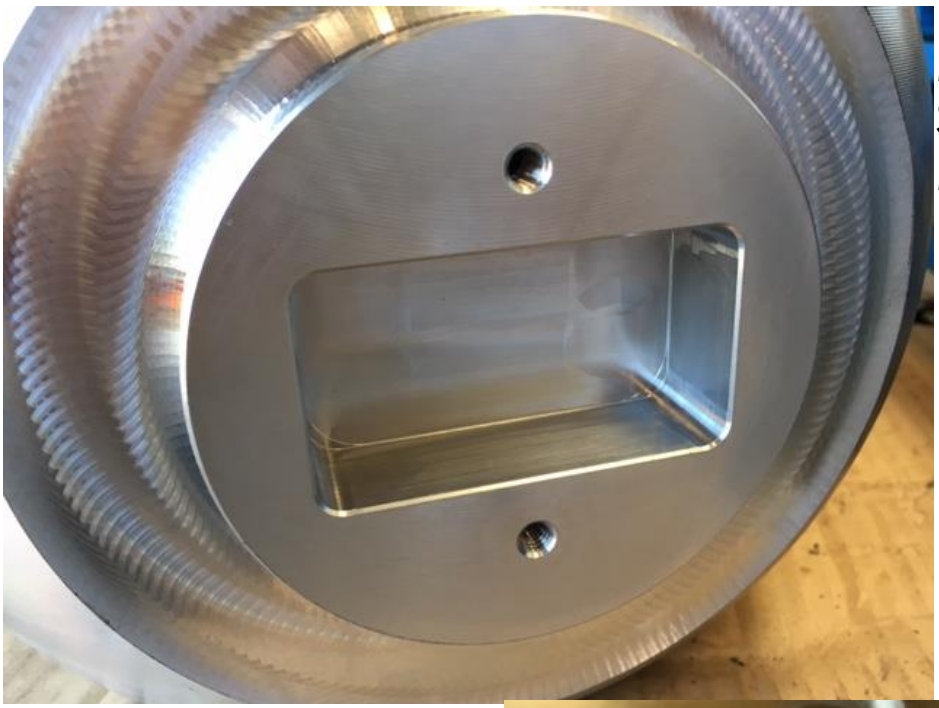
Info tech n° 168

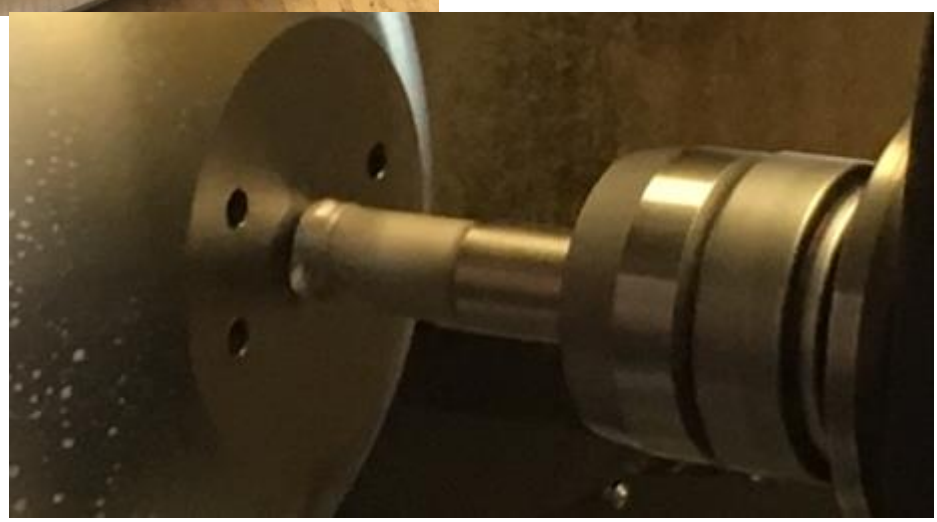
Duplex F51



Machine : DOOSAN
Spindle : Din 69871 Iso 50
Material : F51
Lubrification : Emulsion

- WORK PIECE DIMENSIONS
  60 x 30 H 25

You must use % of oil > 10 %



Cutter = C300C-25R04-07
Cutter's length = 125 mm
Insert = EPHT 07..XT C540
Vt = 100 m/min S = 500 RPM/min
Fz = 0,4 mm/tooth F = 2000 mm/min
Ae = 25 mm Ap = 0,5 mm

Cicle time = 15 slot x 3 min each
45 min

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Info tech n° 168

Super Duplex F53

Machine : CME
Spindle : Din 69871 Iso 50
Material : F53 - SuperDuplex
Lubrification : air

Cutter = C300A-66R08-07
Cutter's length = 180 mm
Insert = EPHT 07..XT C540
Vt = 100 m/min S = 500 RPM/min
Fz = 0,7 mm/tooth F = 2700 mm/min
Ae = 60 mm Ap = 0,5 mm
Time life = 20 min

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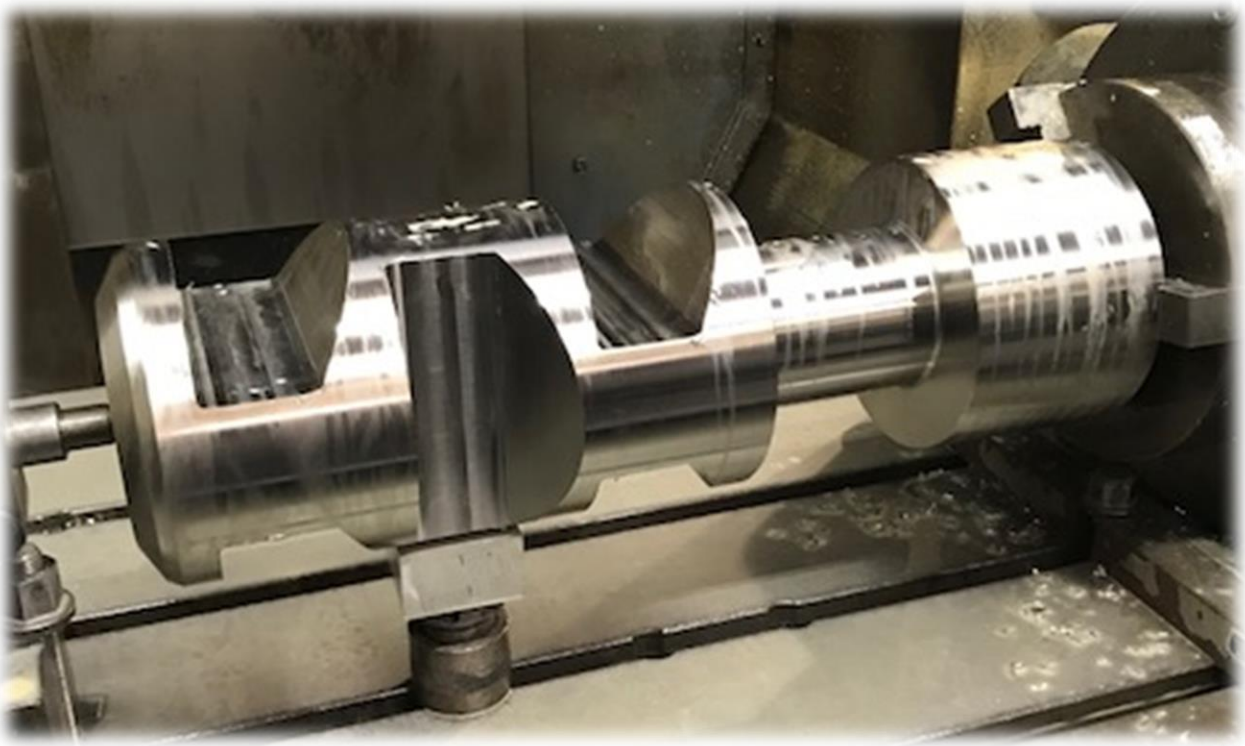
Info tech n° 168

Super Duplex

Machine : MAZAK MTV 655
Spindle : Din 69871 Iso 50
Material : SuperDuplex
Lubrification : Emulsion 8%



Cutter : C300C-32R05-07
Length cutter : 150 mm
Insert : EPHT 07..XT C540
Vt = 70 m/min S= 700 RPM/min
Fz = 0,5 mm/dente F= 1800 mm/min
Ae = 32 mm Ap = 0,3 mm
Time life > 40 min

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Info tech n° 168

STEEL PLUS HASTELLOY

Machine : Soraluce Fs-12000
Spindle : DIN 69871 Iso 50
Type of chuck : face mill arbor
Material: Steel plus hastelloy
Lubrificazion: air

Hardness hastelloy layer : 48 HrC

Rough-cut

Cutter : C300A-80R09-07
Insert : EPHW-070315 –TT P615

Vt : 45 m/min
Ap : 0,3 mm
Fz : 0,3 mm
Vf : 480 mm/min

Ae : 45mm
S : 179 RPM/min

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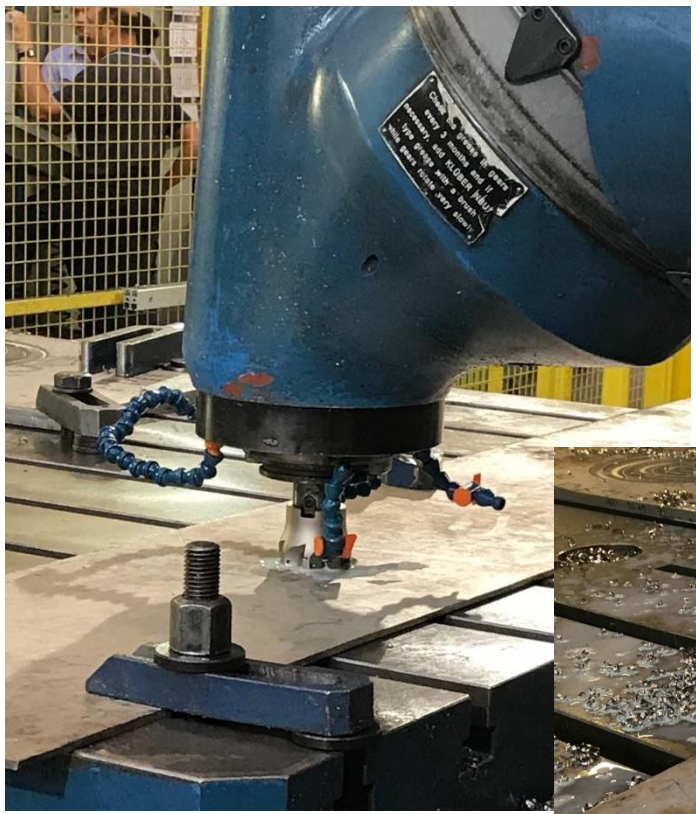
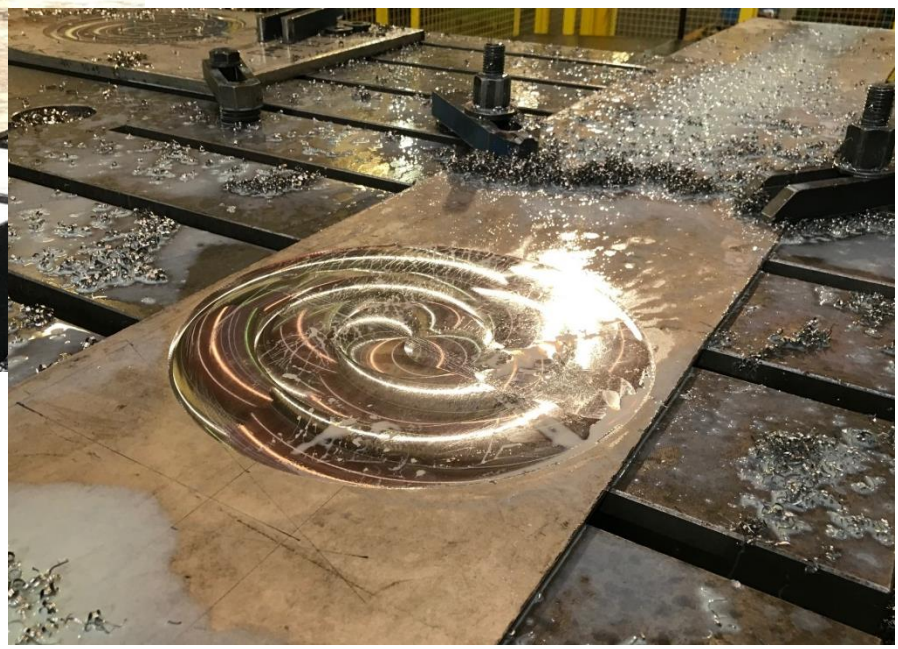
Info tech n° 168

HASTELLOY C22



Macchina : Boring machine
Spindle : Din 69871 Iso50
Type of chuck : face mill arbor
Material : Hastelloy C22
Lubrification : Emulsion

Piece dimensions: 350 x 2000 x 8 spessore



Hastelloy

Nickel:	56 Balance
Chromium:	22
Molybdenum:	13
Iron:	3
Cobalt:	2.5 max.
Tungsten:	3
Manganese:	0.5 max.
Silicon:	0.08 max.
Carbon:	0.01 max.
Vanadium:	0.35 max.
Copper:	0.5 max.

Cutter : C300A-63R08-07
Length cutter : 80 mm
Insert : EPHT 070515 XT C540
Vt = 30 m/min S= 150 RPM/min
Fz = 0,3 mm/tooth F= 370 mm/min
Ae = 50 mm Ap = 0,25 mm

NOTE

Thanks to the low cutting forces generated by the milling cutter, this sheet of 8 mm thickness could be worked without generating vibrations. The sheet metal in the centre did not support the milling Bench.

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Info tech n° 168

1.4313 GX5CrNi134

Machine : Boring machine
Spindle : Din 69871 Iso 50
Type of chuck : ER40
Material : 1.4313 martensitic Stainless steel
Lubrification : Emulsion

Cutter = C300C-25R04-07
Cutter's length = 150 mm
Insert = EPHT 07..ST PM40
Vt = 160 m/min
S = 2000 RPM/min
Fz = 0,5 mm/tooth
F= 4000 mm/min
Ae = 25 mm Ap = 0,5 mm
Time life = 65 min

- WORK PIECE DIMENSIONS

45 x 250
H = 30 mm

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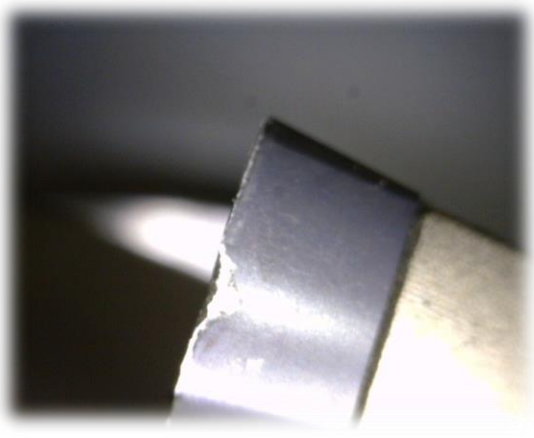
Info tech n° 168

1.2085

Machine : Makino
Spindle : HsK 100
Type of chuck : Shrink fit
Material : 1.2085 16% Cr
Lubrification : emulsion

Cutter = C300A-52R07-07
Cutter's length = 120 mm
Insert = EPHT 07..ST PP35
Vt = 120 m/min S = 740 RPM/min
Fz = 0,58 mm/tooth F = 3000 mm/min
AE = 30 mm Ap = 0,35 mm
Vq = 31 cm3/min
Time life = 190 min



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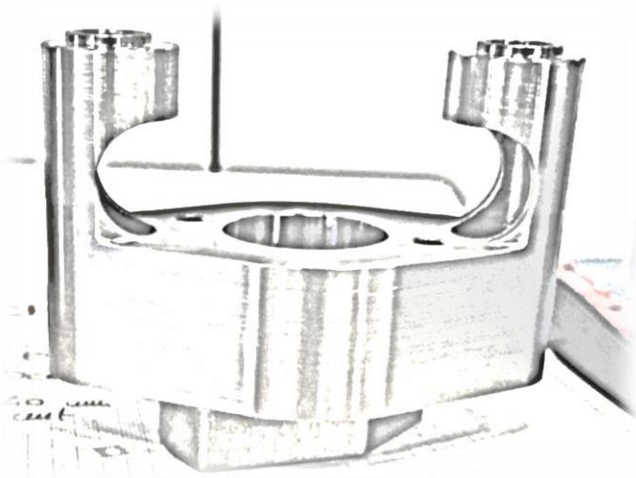
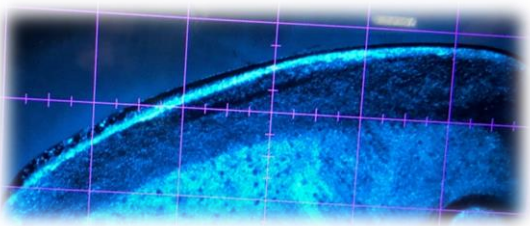
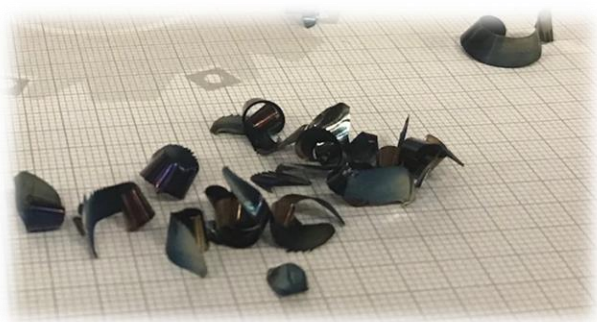
Info tech n° 168

1.2311 *Quenched and tempered*

Machine : Doosan HP5500
Spindle : Din 69871 Iso50
Type of chuck : face arbor
Material : 1.2311
Lubrification : air







Insert wear then 120 min

Cutter : C300A-50R07-07
Length cutter : 140 mm
Insert : EPHT 07..HTM PP35
Vt = 190 m/min S= 1210 RPM/min
Fz = 0,8 mm/tooth F= 6776 mm/min
Ae = 50 mm Ap = 1 mm
Working time = 120 min

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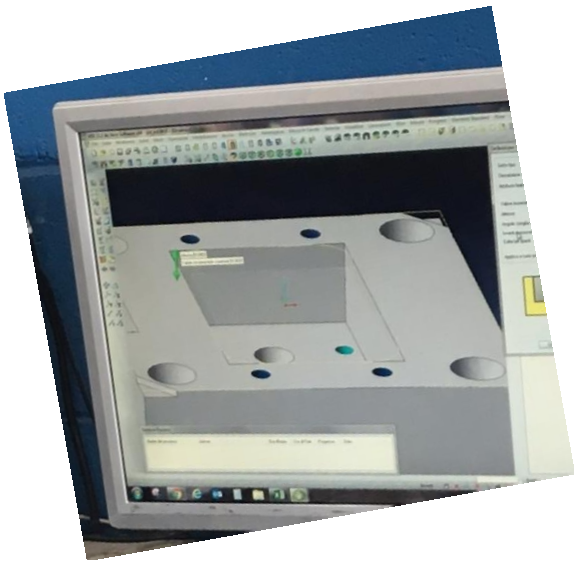
Info tech n° 168

1.2311



Machine : Doosan
Spindle : Din 69871 Iso40
Type of chuck : Showa
Material : 1.2311
Cad Cam : Delcam
Lubrification : air

Cutter = C300C-25R04-07
Cutter's length = 80 mm
Insert = EPHT 07..ST PP35
Vt = 250 m/min S = 3183 RPM/min
Fz = 1,15 mm/tooth F = 14600 mm/min
Ae = 20 mm Ap = 0,5 mm
Vq = 146 cm3/min

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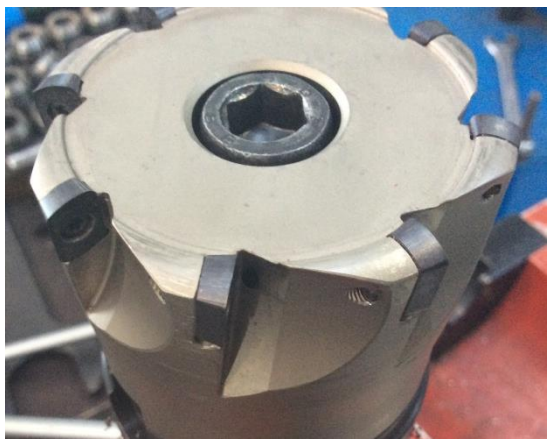
Info tech n° 168

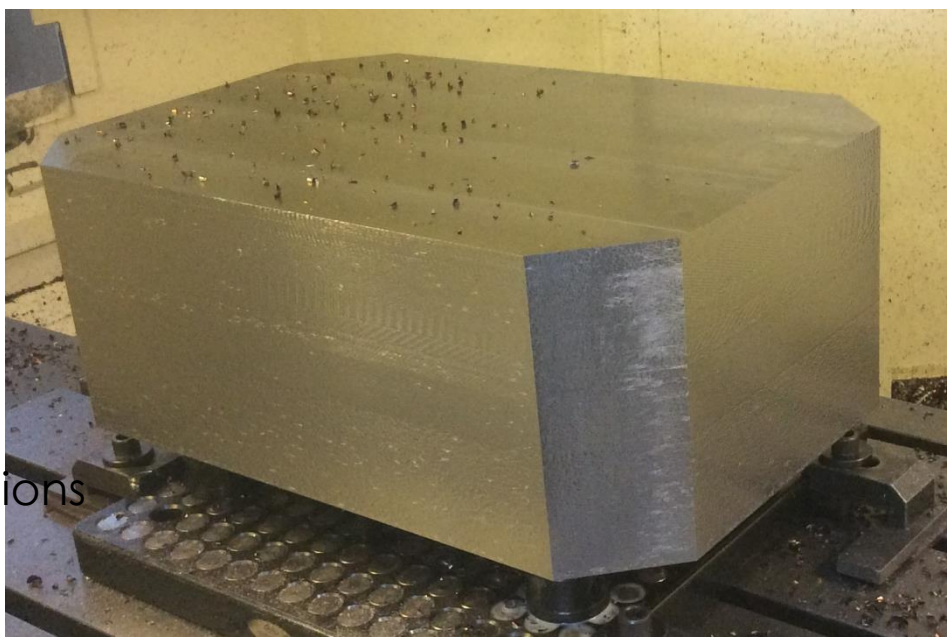
1.2311

Machine : Aewo
Spindle : Din 69871 Iso40
Type of chuck : Modular
Material : 1.2311
Lubrification : air

Cutter = C300A-66R08-07
Cutter's length = 250 mm
Insert = EPHT 07..ST PP35
Vt = 250 m/min S = 1200 RPM/min
Fz = 1,1 mm/tooth F = 10600 mm/min
Ae = 5 - 40 mm Ap = 0,3 mm

cicle time = 120 min
Inserts do not show signs of wear





Work piece dimensions
450 x 350
H = 220 mm

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Info tech n° 168

1.2311

Machine : milling machine
Spindle : Din 69871 Iso50
Type of chuck : face arbor
Material : 1.2311
Lubrification : air

Cutter = C300A-66R08-07
Cutter's length = 210 mm
Insert = EPHT 07..HTM PP35
Vt = 150 m/min S = 720 RPM/min
Fz = 1 mm/tooth F = 6000 mm/min
Ae = 48 mm Ap = 0,7 mm
Vq = 201 cm3/min
Cicle time = 120 min
Inserts do not show evidence of wear

Work piece dimensions
1400 x 600
H = 200 mm

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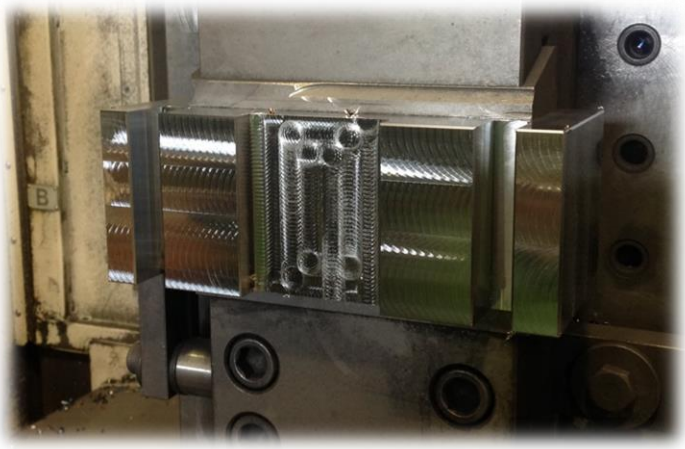
Info tech n° 168

1.2311

Machine : Mori Seiky
Spindle : Din 69871 Iso40
Type of chuck : Showa
Material : 1.2311
Cad Cam : Open Mind
Lubrification : air



Cutter = C300G-20R03-07
Cutter's length = 100 mm
Insert = EPHT 07..ST PP35
Vt = 180 m/min S = 2850 RPM/min
Fz = 0,55 mm/tooth F = 4800 mm/min
Ae = 15 mm Ap = 0,6 mm
Vq = 43 cm3/min
Time life = 45 min

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Info tech n° 168

1.2312

Machine : Sigma
Spindle : Din 69871 Iso 50
Type of chuck : face arbor
Material : 1.2312
Lubrification : air

Cutter = C300A-52R07-07
Cutter's length = **80** mm
Insert = EPHT 07 .. ST PP35
Vt = 180 m/min S = 1400 RPM/min
Fz = 0,95 mm/tooth F = 8000 mm/min
Ae = 30 mm **Ad = 0,5 mm**
Vq = 120 cm3/min

Cutter = C300A-52R07-07
Cutter's length = **160** mm
Insert = EPHT 07 .. ST PP35
Vt = 180 m/min S = 1400 RPM/min
Fz = 0,77 mm/tooth F = 8400 mm/min
Ae = 30 mm **Ap = 0,4 mm**
Vq = 78 cm3/min

Time life = 180 min

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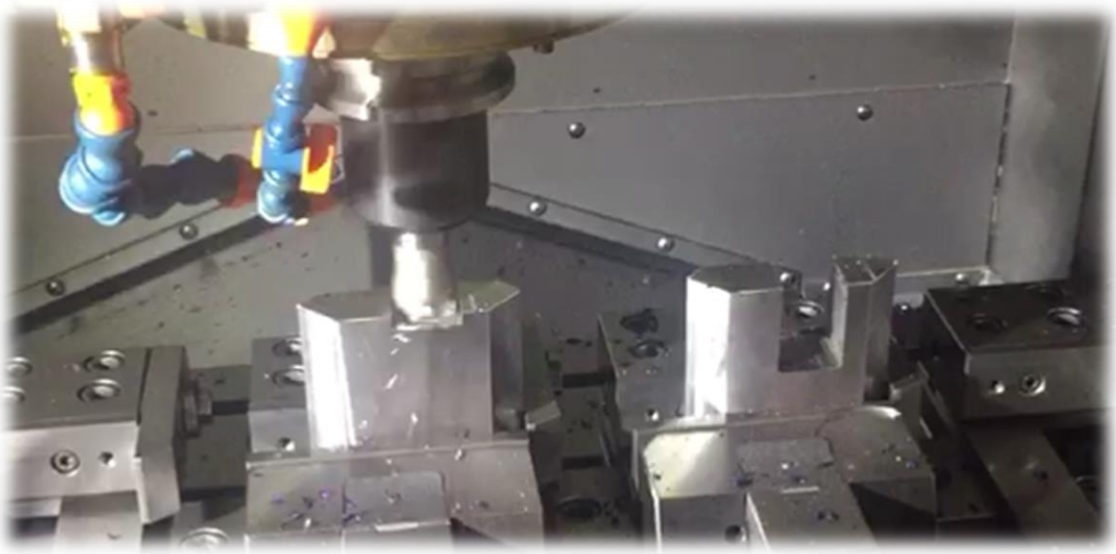
Info tech n° 168

K110

Machine : CNC machine
Spindle : Din 69871 Iso 50
Type of chuck : modular system
Material : K110
Lubrification : air

Cutter = C300C-35R05-07
Cutter's length = 70mm
Insert = EPHT 07 .. ST PP35
Vt = 130 m/min S = 1200 RPM/min
Fz = 0,76 mm/tooth F = 4600 mm/min
Ae = 35 mm Ap = 0,4 mm
Vq = 64 cm3/min
The customer produced 40 PCs
with one cutting edge



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Info tech n° 168

1.2343 48 HrC

Machine : Hermle
Spindle : Din 69871 Iso40
Type of chuck : Idraulic
Material: 1.2343 48 HrC
Cad Cam : Delcam
Lubrification : air

Cutter = C300G-20R03-07
Cutter's length = 100 mm
Insert = EPHW 07..TT P615
Vt = 250 m/min S = 3980 RPM/min
Fz = 0,7 mm/tooth F = 8400 mm/min
Rd = 10 mm Ap = 0,3 mm
Vq = 25 cm3/min
Time life = 40 min

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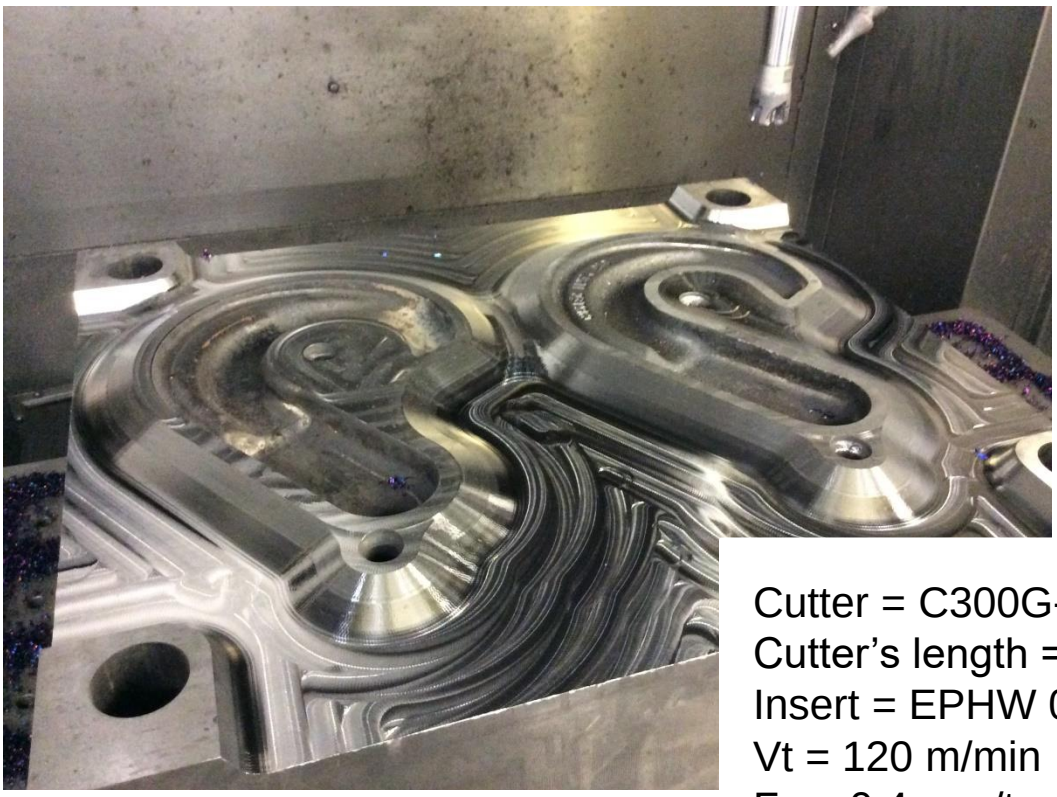
Info tech n° 168

1.2343 58 HrC

Machine : Fidia
Spindle : Din 69871 Iso40
Type of chuck : Showa
Material : 1.2343 58 HrC
nitrated
Cad Cam : Nx
Lubrification : air



Cutter = C300G-25R04-07
Cutter's length = 80 mm
Insert = EPHW 07..TT P615
Vt = 120 m/min S = 1500 RPM/min
Fz = 0,4 mm/tooth F = 2400 mm/min
Ae = 12 mm Ap = 0,25 mm
Vq = 7,2 cm3/min
Time life = 90 min

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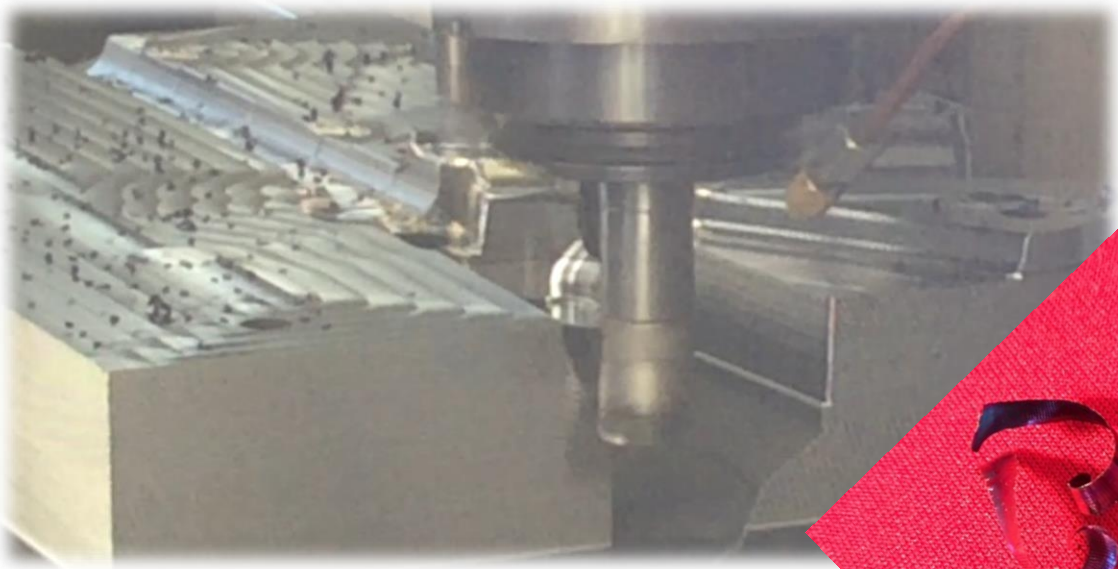
Info tech n° 168

DacMagic 49 HrC

Machine : Parpas
Spindle : Iso 50 Din 69871
Material : Dac Magic 49 HrC
Cad Cam : Cimatron
Lubrification : air



Cutter = C300G-32R05-07
Cutter's length = 160 mm
Insert = EPHW 07..TT P615
Vt = 130 m/min S = 1300 RPM/min
Fz = 0,76 mm/tooth F = 5000 mm/min
Ae = 21 mm Ap = 0,35 mm
Vq = 36 cm3/min
Time life = 60 min

Vt = 100 m/min S = 1000 RPM/min
Fz = 0,8 mm/tooth F = 4000 mm/min
Ae = 21 mm Ap = 0,35 mm
Vq = 30 cm3/min
Time life = 90 min

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Info tech n° 168

1.2738

Machine : MAKINO S56
Spindle : HSK 63
Type of chuck : thread M10
Material : 1.2738
Lubrification : air

Cutter = C300G-20R03-07
Cutter's length = 60 mm
Insert = EPHT 07..ST PP35
Vt = 175 m/min S = 2800 RPM/min
Fz = 1,07 mm/tooth F = 9000 mm/min
Ae = 15 mm Ap = 0,3 mm
Vq = 40 cm3/min
Time life = **240** min

wear insert after 240 minutes of work

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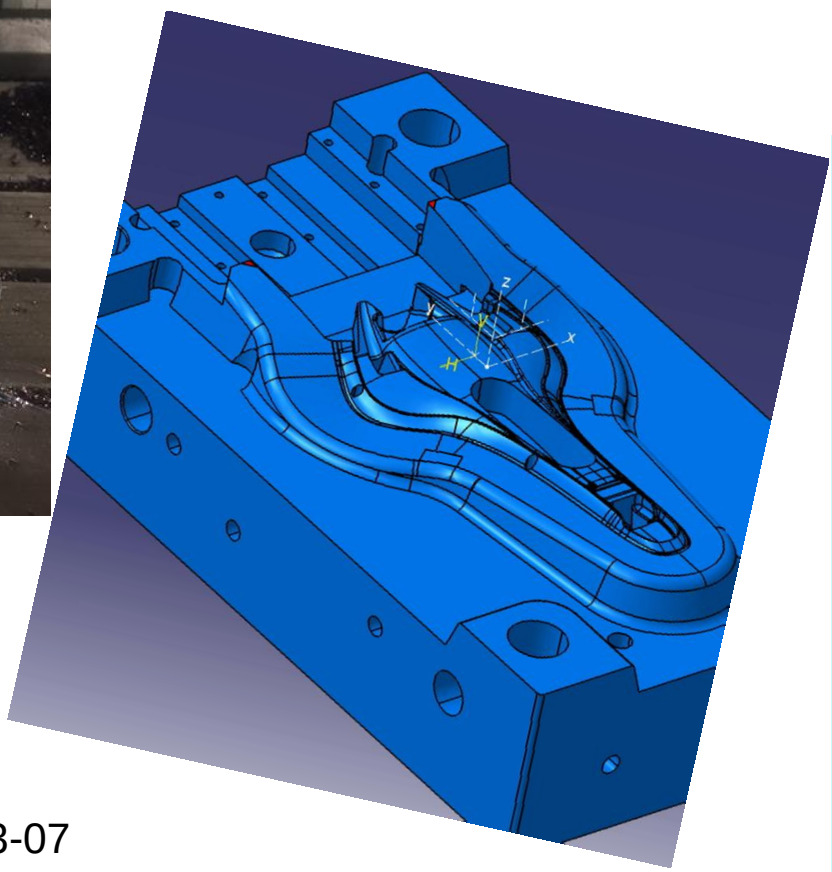
Info tech n° 168

1.2738

Machine : Paventa
Spindle : Iso 40 Din 69871
Type of chuck : ER
Material : 1.2738
Lubrification : air



Cutter = C300G-20R03-07
Cutter's length = 105 mm
Insert = EPHT 07..ST PP35
Vt = 180 m/min S = 2800 RPM/min
Fz = 0,95 mm/tooth F = 8000 mm/min
Ae = 15 mm Ap = 0,3 mm
Vq = 36 cm3/min
Time life = **240** min

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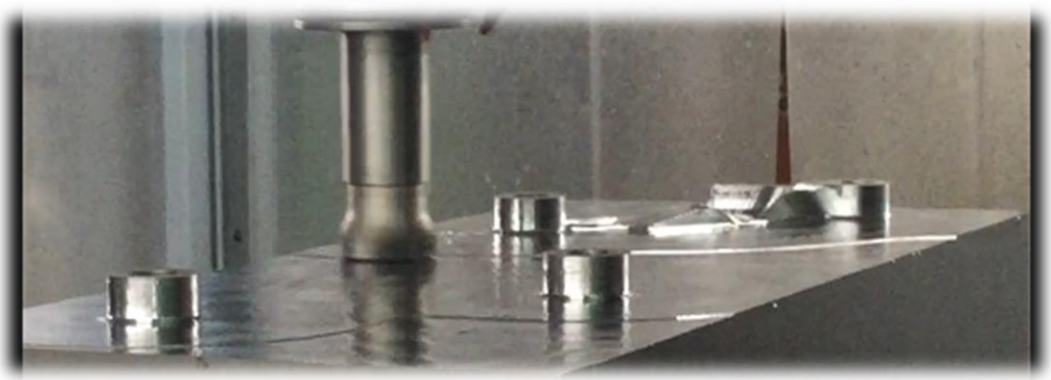
Info tech n° 168

1.2738 HH

Machine : FPT
Spindle : Iso 50
Type of chuck : Shrink fit
Material : 1.2738 HH 35HrC
Lubrification : air

Cutter = C300A-52R07-07
Cutter's length = 120 mm
Insert = EPHW 07..TT P615
Vt = 110 m/min S = 700 RPM/min
Fz = 1,4 mm/tooth
F= 6800 mm/min
Ae = 40 mm
Ap = 0,7 mm
Vq = 190 cm3/min
Time life = 240 min



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Info tech n° 168

1.2738 35 HrC

Machine : Goglio
Spindle : Iso 50
Type of chuck : hard chuck
Material : 1.2738 40HrC
Lubrification : air

Cutter = C300A-52R07-07
Cutter's length = **140** mm
Insert = EPHW 07..TT P615
Vt = 130 m/min S = 800 RPM/min
Fz = 1,5 mm/tooth F = 8400 mm/min
Ae = 40 mm **Ap = 0,3 mm**
Vq = 100 cm3/min
Time life = 120 min

Vt = 130 m/min S = 800 RPM/min
Fz = 0,8 mm/tooth F = 4500 mm/min
Ae = 40 mm **Ap = 0,5 mm**
Vq = 90 cm3/min
Time life = 120 min

Cutter = C300A-52R07-07
Cutter's length = **240** mm
Insert = EPHW 07..TT P615
Vt = 130 m/min S = 800 RPM/min
Fz = 1,5 mm/tooth F = 8400 mm/min
Ae = 40 mm Ap = 0,3 mm
Vq = 100 cm3/min
Time life = 120 min

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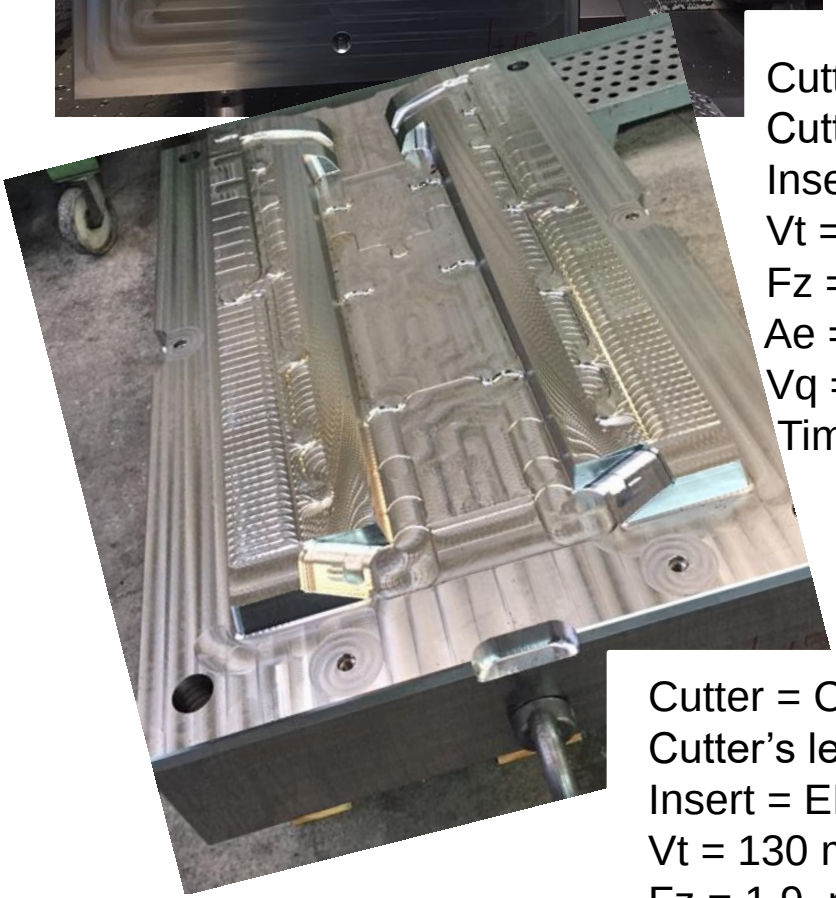
Info tech n° 168

1.2738 35 HrC

Machine : Deckel DMU200
Spindle : Iso 50
Type of chuck : hard chuck
Material : 1.2738 35HrC
Lubrification : air



Cutter = C300A-52R07-07
Cutter's length = 105 mm
Insert = EPHT 07..ST PP35
Vt = 130 m/min S = 780 RPM/min
Fz = 1 mm/tooth F = 6000 mm/min
Ae = 40 mm Ap = 0,7 mm
Vq = 168 cm3/min
Time life = 120 min

OR

Cutter = C300A-52R07-07
Cutter's length = 105 mm
Insert = EPHT 07..ST PP35
Vt = 130 m/min S = 780 RPM/min
Fz = 1,9 mm/tooth F = 11500 mm/min
Ae = 40 mm Ap = 0,5 mm
Vq = 230 cm3/min
Time life = 60 min

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Info tech n° 168

W55 49 HrC

Machine : Hermle
Spindle : Din 69871 Iso40
Type of chuck : Shrink fit
Material : W55 49 HrC
Cad Cam : Delcam
Lubrification : air

Cutter = C300G-20R03-07
Cutter's length = 100 mm
Inserto = EPHW 07..TT P615
Vt = 200 m/min S = 3200 RPM/min
Fz = 0,6 mm/tooth F = 5700 mm/min
Ae = 12 mm Ap = 0,3 mm
Vq = 20 cm3/min
Time life = 40 min

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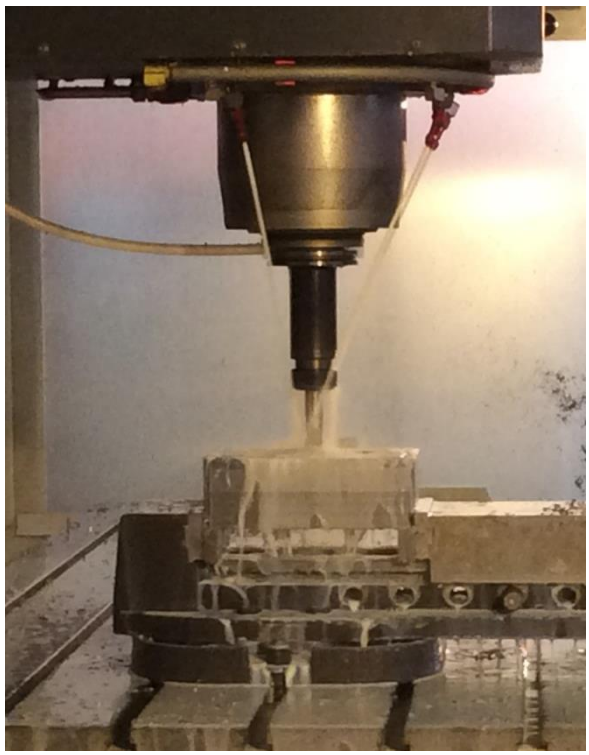
Info tech n° 168

SLEIPNER

Machine : HAAS
Spindle : Din 69871 Iso 50
Type of chuck : ER 32 long
Material : SLEIPNER
Lubrification : emulsion

CAM STRATEGY

«Z» level
Entry from the center piece Ramp 2°
Cutter works from the inside to the outside slot



Cutter = C300C-20R03-07
Cutter's length = 120 mm
Insert = EPHT 07 .. ST PP35
Vt = 140 m/min S = 2200 RPM/min
Fz = 0,66 mm/tooth F = 4400 mm/min
Ae = 10 mm Ap = 0,5 mm
Vq = 22 cm3/min
Time life with emulsion = 75 min

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Info tech n° 168

SLEIPNER 52 HrC

Machine : Makino F5
Spindle : HSK 50
Type of chuck : Idraulic
Material : SLEIPNER 52 HrC
Lubrification : air

Cutter = C300C-20R03-07
Cutter's length = 80 mm
Insert = EPHW 07..TT P615
Vt = 91 m/min S = 1500 RPM/min
Fz = 0,33 mm/tooth F = 2750 mm/min
Ae = 20 mm Ap = 0,2 mm
Vq = 11 cm3/min

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Info tech n° 168

HSS 62 HrC

Machine : Yasda
Spindle : BTB40
Type of chuck : Showa
Material : HSS M4
hardness : 62 HrC
Cad Cam : Delcam
Lubrification : air

Cutter = C300G-20R03-07
Cutter's length = 100 mm
Insert = EPHW 07..TT P615
Vt = 75 m/min S = 1200 RPM/min
Fz = 0,3 mm/tooth F = 1080 mm/min
Ae = 0,3 mm Ap = 0,3 mm
Time life = 180 min

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Note

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Note

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Rivenditore autorizzato

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