TURNING CHIPBREAKERS OVERVIEW IN NON-FERROUS OPERATION

NON-FERROUS

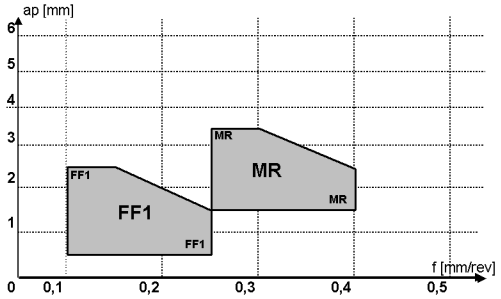
NEGATIVE INSERTS

	OPERATION	
	FINISHING / SEMIFINISHING	MEDIUM / ROUGHING
CHIPBREAKERS	FF1	MR

	FF1	MR	
$ap_{min}=r_\varepsilon \times \dots$	0,60	1,90	[mm]
$ap_{max}=l \times \dots$	0,21	0,31	[mm]
$f_{min}=r_\varepsilon \times \dots$	0,13	0,38	[mm]
$f_{max}=r_\varepsilon \times \dots$	0,31	0,58	[mm]
$A_{max}=ap_{max} \times f_{max}$	0,65	0,65	[mm²]

Ex: CNMG 120408-MR **for** **AlMg1** **K_r = 95°**

ap_{min} = 0.80 × 1.90	=	1,50	[mm]	»	1.50/25.4	=	0,07	[inch]
ap_{max} = 12 × 0.31	=	3,70	[mm]	»	3.70/25.4	=	0,15	[inch]
f_{min} = 0.80 × 0.38	=	0,30	[mm]	»	0.30/25.4	=	0,01	[inch]
f_{max} = 0.80 × 0.58	=	0,46	[mm]	»	0.46/25.4	=	0,02	[inch]
A_{max}=3.70×0.46×0.65	=	1,10	[mm²]	»	1.10/25.4²	=	0,002	[inch²]



NON-FERROUS

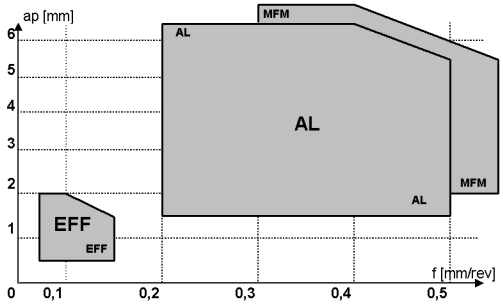
POSITIVE INSERTS

	OPERATION		
	FINISHING	SEMIFINISHING / MEDIUM	ROUGHING
CHIPBREAKERS	EFF	AL	MFM

	EFF	AL	MFM	
$ap_{min}=r_\varepsilon \times \dots$	0,50	1,90	2,50	[mm]
$ap_{max}=l \times \dots$	0,15	0,55	0,63	[mm]
$f_{min}=r_\varepsilon \times \dots$	0,10	0,25	0,37	[mm]
$f_{max}=r_\varepsilon \times \dots$	0,20	0,63	0,75	[mm]
$A_{max}=ap_{max} \times f_{max}$	0,50	0,80	0,80	[mm²]

Ex: CCGT 120408-AL **for** **AlMg1** **K_r = 95°**

ap_{min} = 0.80 × 2.50	=	2,00	[mm]	»	2.0/25.4	=	0,08	[inch]
ap_{max} = 12 × 0.55	=	6,60	[mm]	»	6.60/25.4	=	0,26	[inch]
f_{min} = 0.80 × 0.25	=	0,20	[mm]	»	0.20/25.4	=	0,08	[inch]
f_{max} = 0.80 × 0.63	=	0,50	[mm]	»	0.50/25.4	=	0,02	[inch]
A_{max}=7×0.5×0.8	=	2,80	[mm²]	»	2.80/25.4²	=	0,004	[inch²]



General Formulas

Vc:	Cutting speed	[mm/m or	[inch/min]
d1:	Diameter	[mm] or	[inch]
f:	Feed	[mm] or	[inch]
n:	Revolutions/min	[rev./min.]	
Vf:	Feed rate	[mm/m or	[inch/min]
ap:	depth of cut	[mm] or	[inch]
1inch =	25.4mm	1m/mi	3.28sfm
1 mm =	0.04inch	1 sfm	0.305m/min

$$Vc = \frac{\Pi \times d1 \times n}{1000}$$ [mm/min] if Dc in [mm]

$$n = \frac{Vc \times 1000}{\Pi \times d1}$$ [rev./min.]

Vf = f.N [mm/min] if f in [mm]

IMPORTANT:

The information you will find is based on our actual knowledge and experience. Seen the influence of some parameters by using our products, the user is not dispensed from making previous tests or verifications. No legal responsability may be associated with the characteristics or recommandations of a product for a case of application. The user has, under his own responsability, to respect all valid rights, laws and guidelines by using our products.