TURNING CHIPBREAKERS OVERVIEW IN STAINLESS STEEL OPERATION

STAINLESS STEEL

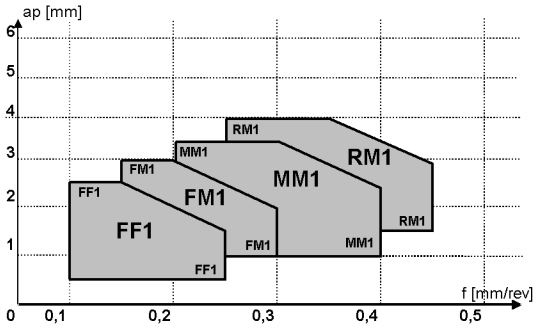
NEGATIVE INSERTS

	OPERATION			
	FINE FINISHING	FINISHING / SEMIFINISHING	MEDIUM	ROUGHING
CHIPBREAKERS	FF1	FM1	MM1	RM1

	FM1	MM1	MM1	RM1	
$ap_{min}=r\varepsilon \times \dots$	1,00	1,20	1,90	2,00	[mm]
$ap_{max}=l \times \dots$	0,24	0,35	0,31	0,31	[mm]
$f_{min}=r\varepsilon \times \dots$	0,15	0,28	0,38	0,31	[mm]
$f_{max}=r\varepsilon \times \dots$	0,30	0,50	0,58	0,58	[mm]
$A_{max}=ap_{max} \times f_{max}$	0,80	0,75	0,65	0,65	[mm^2]

Ex: CNMG 120408-MM1 **for** **304** **/** $K_r = 95°$

ap_{min} = 0.80 × 1.2	=	0,96	[mm]	»	0.96/25.4	=	0,04	[inch]
ap_{max} = 12 × 0.35	=	4,20	[mm]	»	4.20/25.4	=	0,17	[inch]
f_{min} = 0.80 × 0.28	=	0,20	[mm]	»	0.20/25.4	=	0,01	[inch]
f_{max}= 0.80 × 0.50	=	0,44	[mm]	»	0.44/25.4	=	0,02	[inch]
A_{max}=4.20×0.44×0.75	=	1,39	[mm^2]	»	1.39/25.4^2	=	0,002	[$inch^2$]



STAINLESS STEEL

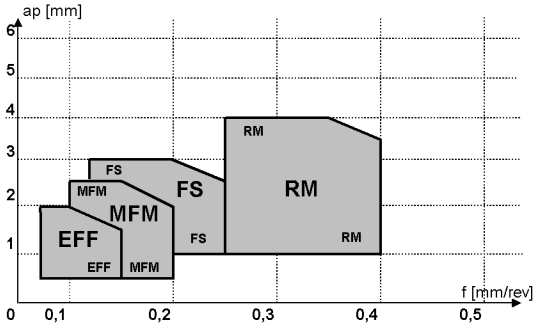
POSITIVE INSERTS

	OPERATION			
	FINE FINISHING	FINISHING / SEMIFINISHING	MEDIUM	ROUGHING
CHIPBREAKERS	EFF	MFM	FS	RM

	EFF	MFM	FS	RM	
$ap_{min}=r\varepsilon \times \dots$	0,50	0,50	1,25	1,25	[mm]
$ap_{max}=l \times \dots$	0,15	0,25	0,25	0,33	[mm]
$f_{min}=r\varepsilon \times \dots$	0,10	0,10	0,16	0,28	[mm]
$f_{max}=r\varepsilon \times \dots$	0,20	0,28	0,35	0,52	[mm]
$A_{max}=ap_{max} \times f_{max}$	0,50	0,50	1,00	0,75	[mm^2]

Ex: CNMG 120408-RM **for** **304** **/** $K_r = 95°$

ap_{min} = 0.80 × 1.25	=	1,00	[mm]	»	1.00/25.4	=	0,04	[inch]
ap_{max} = 12 × 0.33	=	4,00	[mm]	»	4.00/25.4	=	0,16	[inch]
f_{min} = 0.80 × 0.25	=	0,20	[mm]	»	0.20/25.4	=	0,01	[inch]
f_{max}= 0.80 × 0.52	=	0,42	[mm]	»	0.42/25.4	=	0,02	[inch]
A_{max}=4.00×0.42×0.75	=	1,26	[mm^2]	»	1.26/25.4^2	=	0,020	[$inch^2$]



General Formulas

Vc:	Cutting speed	[mm/n or	[inch/min]
d1:	Diameter	[mm] or	[inch]
f:	Feed	[mm] or	[inch]
n:	Revolutions/min	[rev./min.]	
Vf:	Feed rate	[mm/n 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.