

ISO INSERT SERIES FOR HEAVY CUTTING

SPECIALLY DESIGNED FOR HEAVY CUTTING
OF STAINLESS AND ALLOY STEELS

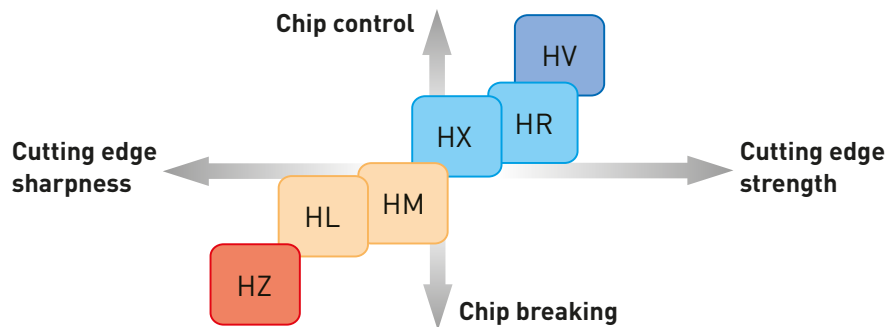


DIAEDGE

 **MITSUBISHI MATERIALS**

ISO INSERT SERIES FOR HEAVY CUTTING

APPLICATION AREA



SINGLE SIDED CHIP BREAKER

HX First recommendation for heavy cutting of general steel and alloy steel



Covers the medium range of the heavy cutting region. Owing to the straight edge and chamfer gives a balance of sharpness and strength. Variable land and a wavy chipbreaker for good chip control.



HR Alternative chip breaker for heavy cutting of general steel and alloy steel



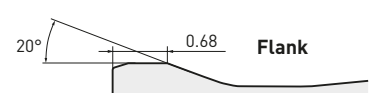
Covers the heavy cutting region by using a straight cutting edge with high edge strength. It exhibits smooth chip control during large depths of cut and high feed rate machining.



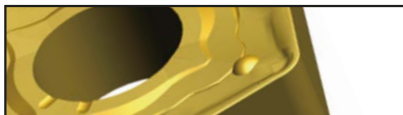
HV Alternative chip breaker for heavy cutting of general steel and alloy steel



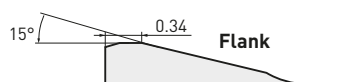
Covers the upper end of the heavy cutting region. Wide land and large chamfer offer high edge strength. A wide chipbreaker prevents chip jamming.



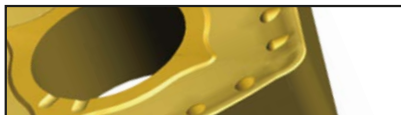
HL First recommendation for heavy cutting of mild steel and stainless steel



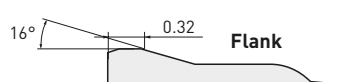
Covers the lower end of the heavy cutting region. The curved edge and narrow chamfer allows good chip control and sharp cutting action. Dots on the nose radius ensure chip control at low depths of cut.



HM Alternative chip breaker for heavy cutting of mild steel and stainless steel



Covers the lower end through to the medium range of the heavy cutting region. The curved edge and narrow chamfer allows good chip control and sharp cutting action. Teardrop dots provided along the cutting edge ensures chip control even with variable depths of cut.



HZ Alternative chip breaker for heavy cutting of mild steel and stainless steel



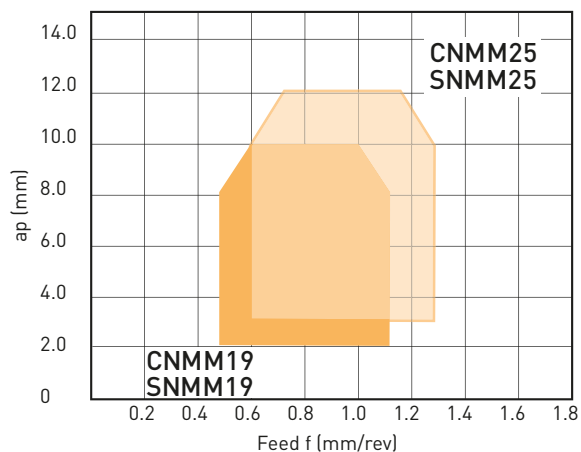
Covers the lower end of the heavy cutting region. Low cutting resistance due to positive land and curved edge. Teardrop dots improve chip control without increasing cutting resistance.



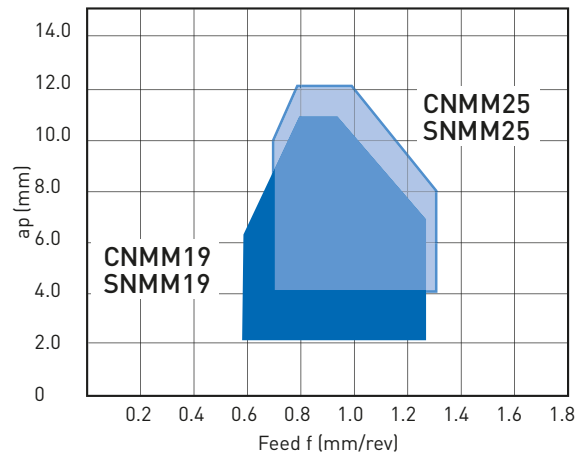
EFFECTIVE CHIP CONTROL RANGE

MAIN CHIP BREAKERS

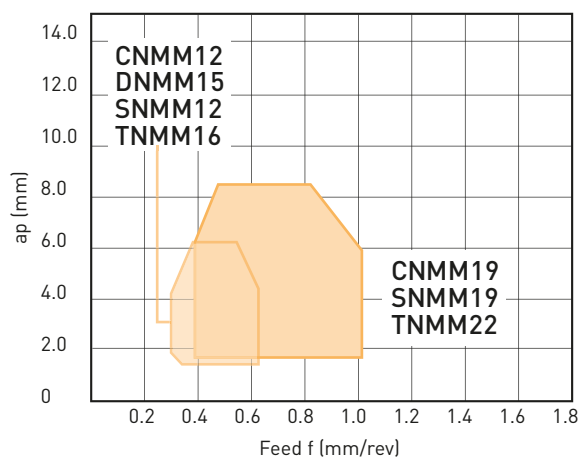
HM



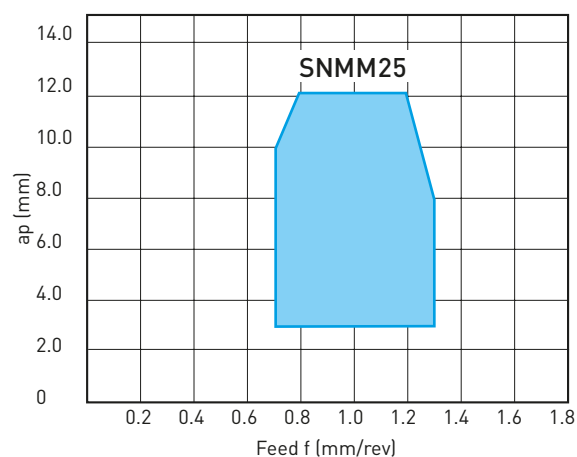
HV



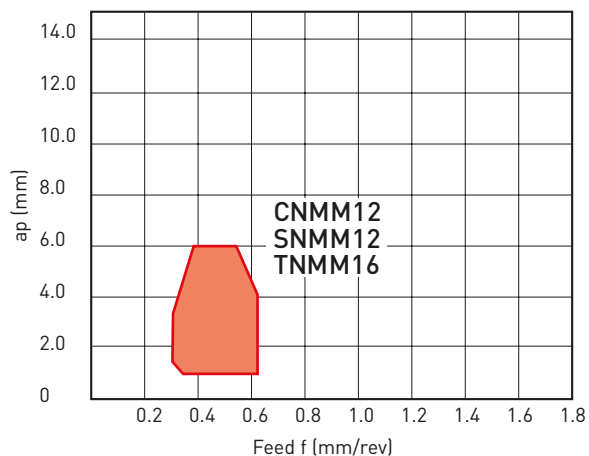
HL



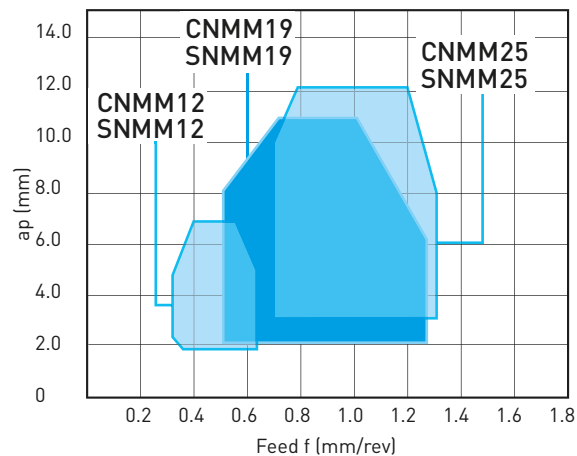
HR



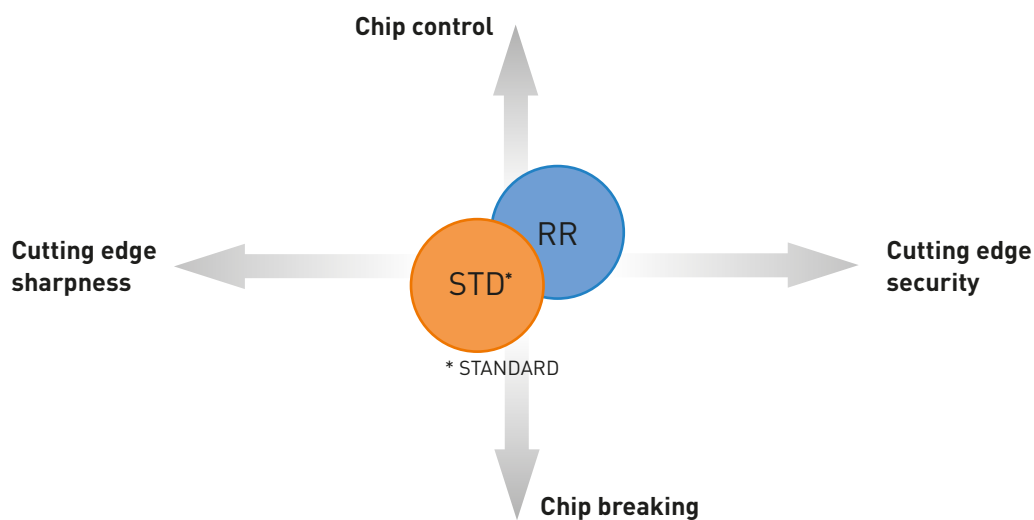
HZ



HX



ROUND CHIP BREAKERS

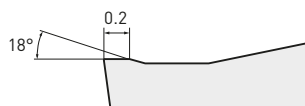


STD* Medium cutting of general steel, alloy steel and stainless steel

RR Heavy cutting of general steel and alloy steel



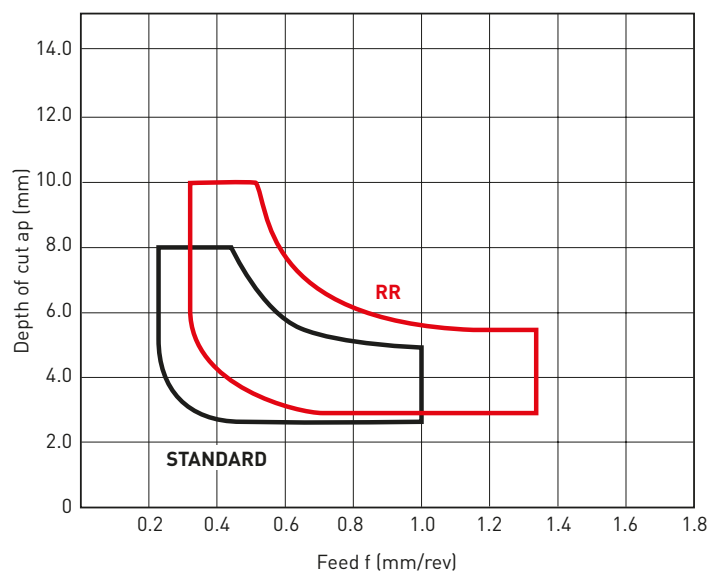
Balance of edge strength and sharpness due to a combination of a flat land and large rake angle.



A wide groove chipbreaker prevents chips from jamming at large depths of cut. Small dimples improve chip control at small depths of cut.



EFFECTIVE CHIP CONTROL RANGE



Workpiece	DIN 42CrMo4
Insert	RCMX2006M0-RR, STANDARD
Cutting speed V_c (m/min)	100
Cutting mode	Dry cutting

NEGATIVE INSERTS

P M

Order Number	UE6110	MC6025	MC6035 NEW	UH6400	US735	IC	S	RE	D1	Shape
CNMM190616-HV	●	●	●	●		19.05	6.35	1.6	7.93	HV
CNMM190624-HV	●	●	●	●		19.05	6.35	2.4	7.93	
CNMM250924-HV	●	●	●	●		25.4	9.52	2.4	9.12	
CNMM250924-HR		●	●			25.4	9.52	2.4	9.12	HR
CNMM120408-HX		★	★			12.7	4.76	0.8	5.16	HX
CNMM120412-HX		★	★			12.7	4.76	1.2	5.16	
CNMM160612-HX		★	★			15.875	6.35	1.2	6.35	
CNMM160616-HX		★	★			15.875	6.35	1.6	6.35	HM
CNMM190612-HX	●	●	●	●		19.05	6.35	1.2	7.93	
CNMM190616-HX	●	●	●	●	●	19.05	6.35	1.6	7.93	
CNMM190624-HX	●	●	●	●		19.05	6.35	2.4	7.93	HL
CNMM250924-HX	●	●	●	●		25.4	9.52	2.4	9.12	
CNMM160612-HM	●	●	●	●	●	15.875	6.35	1.2	6.35	
CNMM160616-HM	●	●	●	●	●	15.875	6.35	1.6	6.35	HZ
CNMM190612-HM	●	●	●	●	●	19.05	6.35	1.2	7.93	
CNMM190616-HM	●	●	●	●	●	19.05	6.35	1.6	7.93	
CNMM190624-HM	●	●	●	●	●	19.05	6.35	2.4	7.93	HL
CNMM250924-HM	●	●	●	●	●	25.4	9.52	2.4	9.12	
CNMM120408-HL	●	●	●		●	12.7	4.76	0.8	5.16	
CNMM120412-HL	●	●	●		●	12.7	4.76	1.2	5.16	HZ
CNMM120416-HL	●		●		●	12.7	4.76	1.6	5.16	
CNMM160612-HL	●	●	●		★	15.875	6.35	1.2	6.35	
CNMM160616-HL	●	●	●		★	15.875	6.35	1.6	6.35	HZ
CNMM190612-HL	●	●	●		★	19.05	6.35	1.2	7.93	
CNMM190616-HL	●	●	●		★	19.05	6.35	1.6	7.93	
CNMM190624-HL	●	●	●		★	19.05	6.35	2.4	7.93	HL
CNMM120408-HZ	●	●	●			12.7	4.76	0.8	5.16	
CNMM120412-HZ	●	●	●			12.7	4.76	1.2	5.16	
CNMM120416-HZ			●			12.7	4.76	1.6	5.16	HZ
CNMM160612-HZ	★					15.875	6.35	1.2	6.35	
CNMM160616-HZ	★					15.875	6.35	1.6	6.35	
CNMM190612-HZ	★			●		19.05	6.35	1.2	7.93	HL
CNMM190616-HZ	★			●		19.05	6.35	1.6	7.93	
CNMM190624-HZ					●	19.05	6.35	2.4	7.93	
DNMM150408-HL		★	★		★	12.7	4.76	0.8	5.16	HL
DNMM150412-HL		★	★		★	12.7	4.76	1.2	5.16	
DNMM150608-HL	●	●	●		●	12.7	6.35	0.8	5.16	
DNMM150612-HL	●	●	●		●	12.7	6.35	1.2	5.16	

● : Inventory maintained. ★ : Inventory maintained in Japan.

NEGATIVE INSERTS

P M

Order Number	UE6110	MC6025	NEW MC6035	UH6400	US735	IC	S	RE	D1	Shape
DNMM150408-HZ		★	●			12.7	4.76	0.8	5.16	HZ
DNMM150412-HZ		★	●			12.7	4.76	1.2	5.16	
DNMM150608-HZ	★	★	●			12.7	6.35	0.8	5.16	
DNMM150612-HZ	★	★	●			12.7	6.35	1.2	5.16	
SNMM190616-HV	●	●	●	●		19.05	6.35	1.6	7.93	HV
SNMM190624-HV	●	●	●	●		19.05	6.35	2.4	7.93	
SNMM250724-HV	●	●	●	●		25.4	7.94	2.4	9.12	
SNMM250924-HV	●	●	●	●		25.4	9.52	2.4	9.12	
SNMM250724-HR		●	●			25.4	7.94	2.4	9.12	HR
SNMM250924-HR		●	●			25.4	9.52	2.4	9.12	
SNMM120408-HX		★	●			12.7	4.76	0.8	5.16	
SNMM120412-HX		★	●			12.7	4.76	1.2	5.16	
SNMM150612-HX		★	●			15.875	6.35	1.2	6.35	HX
SNMM190612-HX	●	●	●	●		19.05	6.35	1.2	7.93	
SNMM190616-HX	●	●	●	●	●	19.05	6.35	1.6	7.93	
SNMM190624-HX	●	●	●	●		19.05	6.35	2.4	7.93	
SNMM250724-HX	●	●	●	●		25.4	7.94	2.4	9.12	HM
SNMM250924-HX	●	●	●	●		25.4	9.52	2.4	9.12	
SNMM150612-HM	●	●	●	●	●	15.875	6.35	1.2	6.35	
SNMM150616-HM	●			●	●	15.875	6.35	1.6	6.35	
SNMM190612-HM	●	●	●	●	●	19.05	6.35	1.2	7.93	HL
SNMM190616-HM	●	●	●	●	●	19.05	6.35	1.6	7.93	
SNMM190624-HM	●	●	●	●	●	19.05	6.35	2.4	7.93	
SNMM250724-HM	●	●	●	●	●	25.4	7.94	2.4	9.12	
SNMM250924-HM	●	●	●	●	●	25.4	9.52	2.4	9.12	HZ
SNMM120408-HL	●	●	●		●	12.7	4.76	0.8	5.16	
SNMM120412-HL	●	●	●		●	12.7	4.76	1.2	5.16	
SNMM150612-HL	●	●	●		★	15.875	6.35	1.2	6.35	
SNMM150616-HL	●					15.875	6.35	1.6	6.35	
SNMM190612-HL	●	●	●		★	19.05	6.35	1.2	7.93	HZ
SNMM190616-HL	●	●	●		★	19.05	6.35	1.6	7.93	
SNMM190624-HL	●	●	●		★	19.05	6.35	2.4	7.93	
SNMM120408-HZ	★	★	●			12.7	4.76	0.8	5.16	
SNMM120412-HZ	★	★	●			12.7	4.76	1.2	5.16	HZ
SNMM150612-HZ	★					15.875	6.35	1.2	6.35	
SNMM190612-HZ	★			●		19.05	6.35	1.2	7.93	
SNMM190616-HZ	●			●		19.05	6.35	1.6	7.93	
SNMM190624-HZ				●		19.05	6.35	2.4	7.93	

NEGATIVE INSERTS

Order Number	UE6110	MC6025	NEW MC6035	UH6400	US735	IC	S	RE	D1	Shape
TNMM160408-HL	●	●	●	●	●	9.525	4.76	0.8	3.81	HL
TNMM160412-HL	●	●	●	●	●	9.525	4.76	1.2	3.81	
TNMM220408-HL	●	●	●	●	●	12.7	4.76	0.8	5.16	
TNMM220412-HL	●	●	●	●	●	12.7	4.76	1.2	5.16	
TNMM220416-HL	●	●	●	●	●	12.7	4.76	1.6	5.16	
TNMM160408-HZ	★	★	●	●	●	9.525	4.76	0.8	3.81	HZ
TNMM160412-HZ		★	●	●	●	9.525	4.76	1.2	3.81	
TNMM220408-HZ	★					12.7	4.76	0.8	5.16	
TNMM220412-HZ	★					12.7	4.76	1.2	5.16	
TNMM220416-HZ	★					12.7	4.76	1.6	5.16	



7° POSITIVE INSERTS

P M

Order Number	UE6110	MC6025	NEW MC6035	UH6400	US735	IC	S	RE	D1	Shape
RCMX1606M0-RR	●	●	●	●	●	16	6.35	-	5.2	RR
RCMX2006M0-RR	●	●	●	●	●	20	6.35	-	6.5	
RCMX2507M0-RR	●	●	●	●	●	25	7.94	-	7.2	
RCMX3209M0-RR	●					32	9.52	-	9.5	
RCMX1003M0		●	●		●	10	3.18	-	3.6	Standard
RCMX1204M0	●	●	●		●	12	4.76	-	4.2	
RCMX1606M0	●	●		●	●	16	6.35	-	5.2	
RCMX2006M0	●	●	●	●	●	20	6.35	-	6.5	
RCMX2507M0	●	●	●			25	7.94	-	7.2	
RCMX3209M0	●	●				32	9.52	-	9.5	



7°POSITIVE INSERTS

P M

Order Number	UE6110	MC6025	MC6035 NEW	UH6400	US735	IC	S	RE	D1	Shape
RCMX1606M0-RR	●	●	●	●		16	6.35	-	5.2	RR
RCMX2006M0-RR	●	●	●	●		20	6.35	-	6.5	
RCMX2507M0-RR	●	●	●	●		25	7.94	-	7.2	
RCMX3209M0-RR	●					32	9.52	-	9.5	
RCMX1003M0		●	●		●	10	3.18	-	3.6	Standard
RCMX1204M0	●	●	●		●	12	4.76	-	4.2	
RCMX1606M0	●	●	●	●	●	16	6.35	-	5.2	
RCMX2006M0	●	●	●	●	●	20	6.35	-	6.5	
RCMX2507M0	●	●	●			25	7.94	-	7.2	
RCMX3209M0	●	●				32	9.52	-	9.5	



RECOMMENDED CUTTING CONDITIONS

Material	Hardness	Cutting Conditions	Grade	Breaker	Vc (m/min)	f (mm/rev)	ap (mm)
P Carbon and Alloy Steel	180-280 HB	Stable Cutting	UE6110	HL	160-275	0.40-1.00	1.50-8.00
				HZ	160-275	0.40-1.20	2.00-10.00
				HM	160-275	0.50-1.10	2.00-10.00
				HX	160-275	0.50-1.26	3.00-11.00
				HV	135-225	0.70-1.30	4.00-12.00
		General Cutting	MC6025	HL	160-265	0.40-1.00	1.50-8.00
				HZ	160-265	0.40-1.20	2.00-10.00
				HM	160-265	0.50-1.10	2.00-10.00
				HX	160-265	0.50-1.26	3.00-11.00
				HR	135-215	0.70-1.30	3.00-12.00
		Unstable Cutting	UE6110	HV	135-215	0.70-1.30	4.00-12.00
				HZ	160-275	0.40-1.20	2.00-10.00
			MC6035	HX	140-200	0.50-1.26	3.00-11.00
				HV	115-165	0.70-1.30	4.00-12.00
				HZ	140-200	0.40-1.20	2.00-10.00
				HL	140-200	0.40-1.00	1.50-8.00
			UH6400	HM	140-200	0.50-1.10	2.00-10.00
				HR	115-165	0.70-1.30	3.00-12.00
				HZ	135-195	0.40-1.20	2.00-10.00
				HX	135-195	0.50-1.26	3.00-11.00
			UE6020	HV	110-160	0.70-1.30	4.00-12.00
				HZ	155-250	0.40-1.20	2.00-10.00

RECOMMENDED CUTTING CONDITIONS

Material	Hardness	Cutting Conditions	Grade	Breaker	Vc (m/min)	f (mm/rev)	ap (mm)
M	Austenitic Stainless Steel	Stable Cutting	US735	HL	75-140	0.40-1.00	1.50-8.00
				HM	75-140	0.40-1.00	1.50-8.00
		General Cutting	US735	HL	75-140	0.40-1.00	1.50-8.00
				HM	75-140	0.50-1.10	2.00-10.00
	Austenitic Stainless Steel	Unstable Cutting	US735	HL	75-140	0.40-1.00	1.50-8.00
				HM	75-140	0.50-1.10	2.00-10.00
		Stable Cutting	US735	HL	60-120	0.40-1.00	1.50-8.00
				HM	60-120	0.50-1.10	2.00-10.00
	Austenitic Stainless Steel	General Cutting	US735	HL	60-120	0.40-1.00	1.50-8.00
				HM	60-120	0.50-1.10	2.00-10.00
		Unstable Cutting	US735	HL	60-120	0.40-1.00	1.50-8.00
				HM	60-120	0.50-1.10	2.00-10.00
	> 200 HB	Stable Cutting	US735	HL	50-95	0.40-1.00	1.50-8.00
				HM	50-95	0.50-1.10	2.00-10.00
		General Cutting	US735	HL	50-95	0.40-1.00	1.50-8.00
				HM	50-95	0.50-1.10	2.00-10.00
	Ferritic and Martensitic Stainless Steels	Unstable Cutting	US735	HL	50-95	0.40-1.00	1.50-8.00
				HM	50-95	0.50-1.10	2.00-10.00
	< 200 HB	Stable Cutting	US735	HL	75-140	0.40-1.00	1.50-8.00
				HM	75-140	0.50-1.10	2.00-10.00
		General Cutting	US735	HL	75-140	0.40-1.00	1.50-8.00
				HM	75-140	0.50-1.10	2.00-10.00
	Ferritic and Martensitic Stainless Steels	Unstable Cutting	US735	HL	75-140	0.40-1.00	1.50-8.00
				HM	75-140	0.50-1.10	2.00-10.00
	> 200 HB	Stable Cutting	US735	HL	60-120	0.40-1.00	1.50-8.00
				HM	60-120	0.50-1.10	2.00-10.00
		General Cutting	US735	HL	60-120	0.40-1.00	1.50-8.00
				HM	60-120	0.50-1.10	2.00-10.00
	Hardened Stainless Steel	Unstable Cutting	US735	HL	60-120	0.40-1.00	1.50-8.00
				HM	60-120	0.50-1.10	2.00-10.00
		Stable Cutting	US735	HL	40-80	0.40-1.00	1.50-8.00
				HM	40-80	0.50-1.10	2.00-10.00
	< 450 HB	General Cutting	US735	HL	40-80	0.40-1.00	1.50-8.00
				HM	40-80	0.50-1.10	2.00-10.00
		Unstable Cutting	US735	HL	40-80	0.40-1.00	1.50-8.00
				HM	40-80	0.50-1.10	2.00-10.00

MEMO

A series of horizontal dotted lines for writing.

GERMANY

MMC HARTMETALL GMBH
Comeniusstr. 2 . 40670 Meerbusch
Phone +49 2159 91890 . Fax +49 2159 918966
Email admin@mmchg.de

U.K.

MMC HARDMETAL U.K. LTD.
Mitsubishi House . Galena Close . Tamworth . Staffs. B77 4AS
Phone +44 1827 312312 . Fax +44 1827 312314
Email sales@mitsubishicarbide.co.uk

SPAIN

MITSUBISHI MATERIALS ESPAÑA, S.A.
Calle Emperador 2 . 46136 Museros / Valencia
Phone +34 96 1441711 . Fax +34 96 1443786
Email mme@mmevalencia.com

FRANCE

MMC METAL FRANCE S.A.R.L.
6, Rue Jacques Monod . 91400 Orsay
Phone +33 1 69 35 53 53 . Fax +33 1 69 35 53 50
Email mmfsales@mmc-metal-france.fr

POLAND

MMC HARDMETAL POLAND SP. Z O.O
Al. Armii Krajowej 61 . 50-541 Wrocław
Phone +48 71335 1620 . Fax +48 71335 1621
Email sales@mitsubishicarbide.com.pl

RUSSIA

MMC HARDMETAL RUSSIA OOO LTD.
Electrozavodskaya St. 24 . build. 3 . Moscow . 107023
Phone +7 495 725 58 85 . Fax +7 495 981 39 79
Email info@mmc-carbide.ru

ITALY

MMC ITALIA S.R.L.
Via Montefeltro 6/A . 20156 Milano
Phone +39 0293 77031 . Fax +39 0293 589093
Email info@mmc-italia.it

TURKEY

MMC HARTMETALL GMBH ALMANYA - İZMİR MERKEZ ŞUBESİ
Adalet Mahallesi Anadolu Caddesi No: 41-1 . 15001 35580 Bayraklı / İzmir
Phone +90 232 5015000 . Fax +90 232 5015007
Email info@mmchg.com.tr

DISTRIBUTED BY:

┌

┐

└

┘