

Grades for heat-resistance alloy

AH8000 SERIES

Tungaloy Report No. 437S1-G

Introducing SDM chipbreaker with AH8000 grade series for turning HRSA materials with superior notch wear resistance



AH8000 SERIES



New SDM chipbreaker combined with AH8000 series for minimizing notch wear and crater wear



■ SDM chipbreaker

Light cutting geometry for notch wear and crater wear resistance





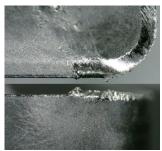
SDM chipbreaker features a unique cutting edge design: a combination of T-land with variable widths and large rake angle minimizes wear mode progression typical in heat-resistant super alloy applications. SDM is especially effective to prevent notch wear development, as shown on the right, that ends tool life.

■ Typical notch wear modes

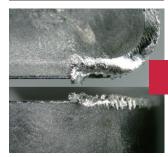




Early stage in machining



Middle stage in machining

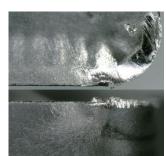


Process security! Longer tool life!

Conventional chipbreaker

SDM

chipbreaker





Workpiece material: Inconel 718 Cutting speed : Vc = 30 m/min: f = 0.2 mm/revDepth of cut : ap = 1 mm

Machining : External continuous cutting

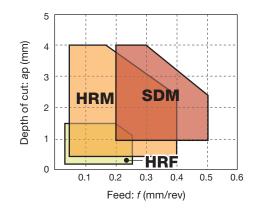
Coolant : Wet

- : Continuous cutting
 : Light interrupted cutting
 : Heavy interrupted cutting
- CN Steel Stainless М • C K Cast iron Non-ferrous N Rhombic, 80° s Superalloy with hole Н Hard material Dimension (mm) Coated Medium cutting Application AH8005 AH8015 Chipbreaker Designation RE IC S D1 SDM CNMG120404-SDM • • 0.4 12.7 4.76 5.16 CNMG120408-SDM • • 0.8 12.7 4.76 5.16 CNMG120412-SDM 12.7 4.76 5.16 1.2

Rhombic, 55° with hole		P M K N S	Steel Stainless Cast iron Non- ferrous Superalloy Hard material	•	c											2	O IC		RE S ID1	
Application	Chipbreaker	Desiç	gnat	tion		AH8015 0	ted										D R		sion (D1
	SDM	DNMG150)404	1-SDM	•	•											0.	1 12.	7 4.76	5.16
Ħ.		DNMG150	408	3-SDM	•	•											0.	12.	7 4.76	5.16
nοι	101	DNMG150			•	•											0.	12.	6.35	5.16
Medium cutting	0.2	DNMG150	612	2-SDM	•	•											1.	2 12.	7 6.35	5.16

: New product

APPLICATION AREA AND CHIP CONTROL



Chipbreaker	Features								
HRF	Cutting edge with a large rake and inclination angle reduce cutting loads and generates thin and consistent chip forms.								
HRM	First choice for HRSA. Small nubs situated close to the cutting edge reduce the friction and contact with chip, generating light cutting action and consistent chip forms.								
SDM	Light cutting geometry providing superior notch wear and crater wear resistance.								

STANDARD CUTTING CONDITIONS

Chinhroakor	Corner radius	Depth of cut	Feed	Cutting speed: Vc (m/min)					
Chippreaker	RE	<i>a</i> p (mm)	f (mm/rev)	AH8005	AH8015				
	0.4	0.2 - 1.5	0.05 - 0.23	40 - 100	20 - 80				
HRF	0.8	0.2 - 1.5	0.05 - 0.25	40 - 100	20 - 80				
	1.2	0.2 - 1.5	0.07 - 0.27	40 - 100	20 - 80				
	0.4	0.5 - 4	0.05 - 0.3	40 - 100	20 - 80				
HRM	0.8	0.5 - 4	0.07 - 0.33	40 - 100	20 - 80				
	1.2	0.5 - 4	0.1 - 0.35	40 - 100	20 - 80				
	1.6	0.5 - 4	0.15 - 0.4	40 - 100	20 - 80				
	0.4	1 - 4	0.2 - 0.3	40 - 100	20 - 80				
SDM	0.8	1 - 4	0.2 - 0.5	40 - 100	20 - 80				
	1.2	1 - 4	0.2 - 0.5	40 - 100	20 - 80				
	HRM	Chipbreaker RE 0.4 0.8 1.2 0.4 0.8 0.8 1.2 0.4 1.6 0.4 SDM 0.8	Chipbreaker RE ap (mm) 0.4 0.2 - 1.5 0.8 0.2 - 1.5 1.2 0.2 - 1.5 0.4 0.5 - 4 0.8 0.5 - 4 1.2 0.5 - 4 1.6 0.5 - 4 0.4 1 - 4 SDM 0.8 1 - 4	Chipbreaker RE ap (mm) f (mm/rev) HRF 0.4 0.2 - 1.5 0.05 - 0.23 1.2 0.2 - 1.5 0.05 - 0.25 1.2 0.2 - 1.5 0.07 - 0.27 0.4 0.5 - 4 0.05 - 0.3 0.8 0.5 - 4 0.07 - 0.33 1.2 0.5 - 4 0.1 - 0.35 1.6 0.5 - 4 0.15 - 0.4 0.4 1 - 4 0.2 - 0.3 SDM 0.8 1 - 4 0.2 - 0.5	Chipbreaker RE ap (mm) f (mm/rev) AH8005 HRF 0.4 0.2 - 1.5 0.05 - 0.23 40 - 100 1.2 0.8 0.2 - 1.5 0.05 - 0.25 40 - 100 1.2 0.2 - 1.5 0.07 - 0.27 40 - 100 0.4 0.5 - 4 0.05 - 0.3 40 - 100 0.8 0.5 - 4 0.07 - 0.33 40 - 100 1.2 0.5 - 4 0.1 - 0.35 40 - 100 1.6 0.5 - 4 0.15 - 0.4 40 - 100 SDM 0.8 1 - 4 0.2 - 0.3 40 - 100				



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