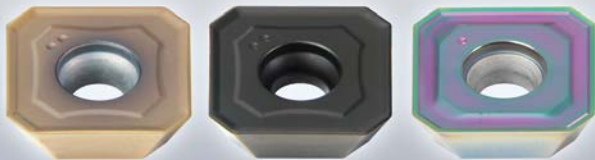


Indexable
Milling
+ Modular Series

NEW

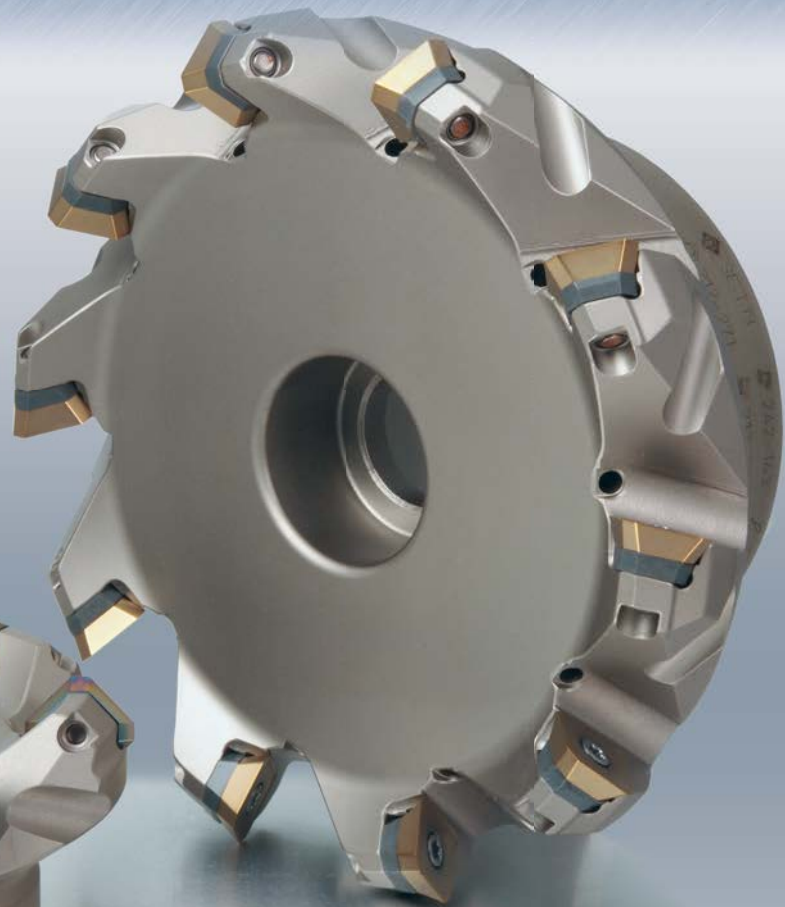
AFE45 Face Mill AFE45 Type

Ø 50 ~ Ø 250 · Face Milling Cutter HRC 60



8 Sizes of Body
× Equal Pitch & Un-Equal Pitch

7 Insert Grades
× 3 Types of Chip Breaker



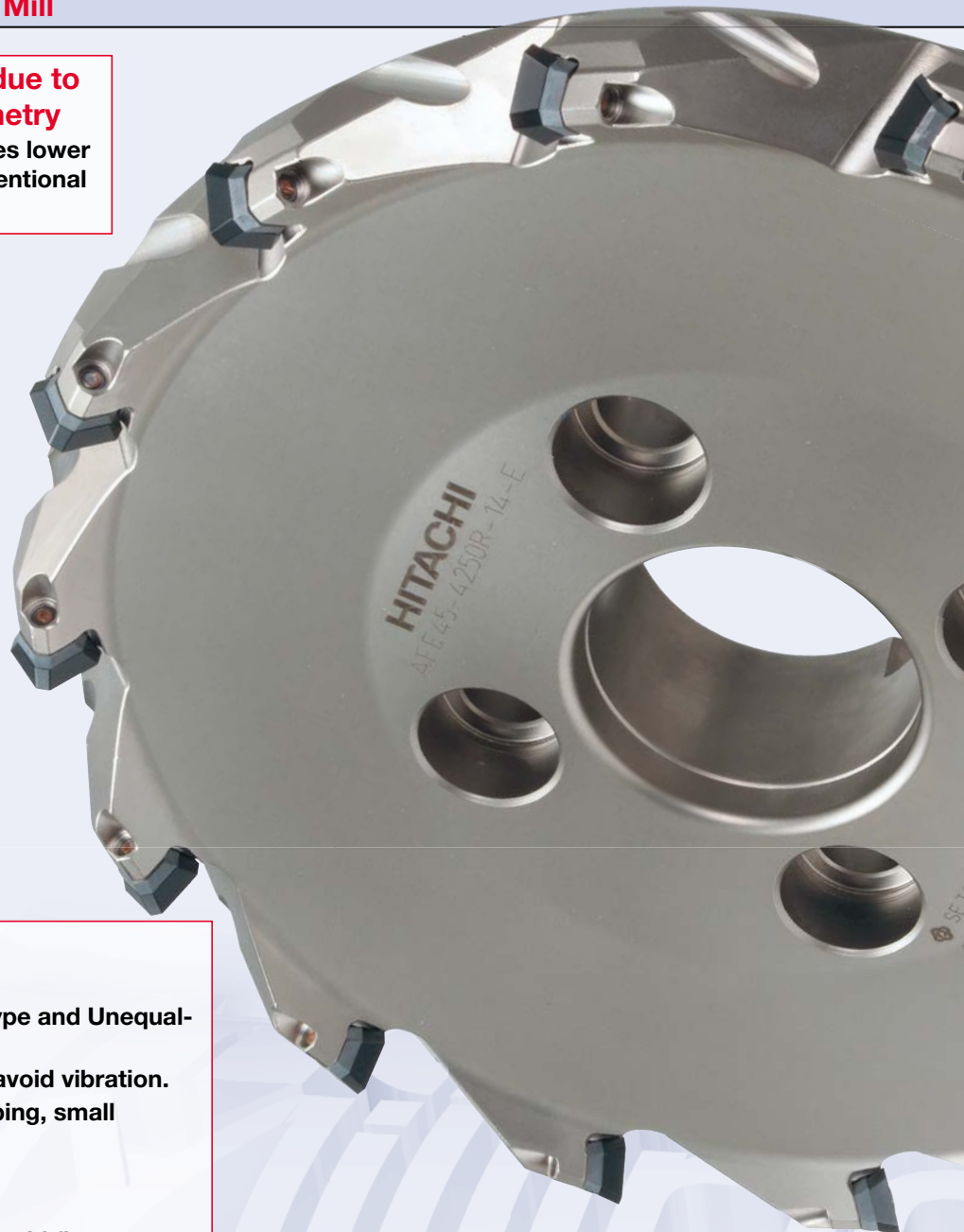
Indexable Milling Tools

AFE45 | Face Mill AFE45 Type

Tool Features **AFE45 Face Mill**

Low cutting force due to unique insert geometry

High-rake insert provides lower cutting force than conventional face milling cutter



Body:

E or UE

Each body has Equal-pitch type and Unequal-pitch type.

UE type is recommended to avoid vibration.

e.x. long OH, less-rigid clamping, small spindle and so on.

(Ø 250 has only E type)

No. of Flutes

Equal pitch types are set as multi flute type.

Keep dia, change UE to E for increase cutting volume.

Change Ø, change from E to UE for avoid vibration with keeping cutting volume... as you want.

Carbide Seat

Bigger than Ø 100 are with Carbide Seat for body protection.



Indexable Milling Tools

AFE45 | Face Mill AFE45 Type



Inserts:
From Aluminium to hardened steel,
roughing to finishing, 3 types of insert
shape & wide grade line-up will adapt
to multi usage.



Indexable Milling Tools

AFE45 | Face Mill AFE45 Type

Q max High Efficient	Jet Air Hole	▽ Roughing	▽▽ Semi-Finishing	HRC 60	No. of Teeth 4-14
--------------------------------	------------------------	----------------------	-----------------------------	------------------	-----------------------------

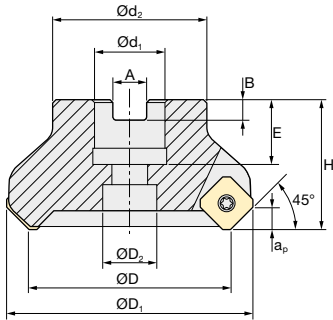


Fig. 1

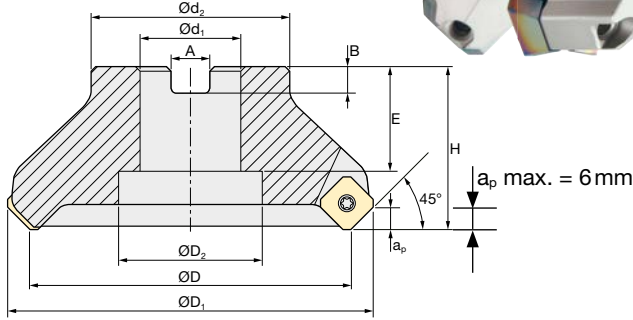


Fig. 2

Torque on screw 3 Nm	Tolerance $\varnothing D_1$ 0/-0.4mm (min.)
--------------------------------	--

ID Code	Item Code	Z	$\varnothing D$	$\varnothing D_1$	$\varnothing d_1$	$\varnothing D_2$	$\varnothing d_2$	A	B	H	E	a_p	Carbide Seat	Coolant hole	Fig.
FH193	AFE45-4050R-4-UE	4	50	63.4	22	18	48	10.4	6.3	40	20	6	-	•	1
FH194	AFE45-4050R-5-E	5													
FH195	AFE45-4063R-5-UE	5	63	76.6	27	20	58	12.4	7	50	22				
FH196	AFE45-4063R-6-E	6													
FH198	AFE45-4080R-6-UE	6	80	93.5	32	26.5	78	14.4	8	25					
FH199	AFE45-4080R-8-E	8													
FH201	AFE45-4100R-7-UE	7	100	113.5	40	32.5	90	16.4	9	29					
FH202	AFE45-4100R-9-E	9													
FH204	AFE45-4125R-8-UE	8	125	138.5	56	114	25.7	14	39						
FH205	AFE45-4125R-10-E	10													
FH206	AFE45-4160R-9-UE	9	160	173.5	60*	61	145	14	39						
FH207	AFE45-4160R-11-E	11													
FH208	AFE45-4200R-10-UE	10	200	213.5	60*	61	145	14	39						
FH209	AFE45-4200R-12-E	12													
FH210	AFE45-4250R-14-E	14	250	263.4		160									

* + Screws

Inserts
SE..T13T3AGTN SEET13T3AG..N-S

	Parts	Screw		Wrench (15IP)	
		Type \varnothing 50-80	ID-Code ET062	Item-Code 242-143 Short	ID-Code ET061

	Parts	Screw		Wrench (15IP)	
		Type \varnothing 100-250	ID-Code ET060	Item-Code 242-143	ID-Code ET061

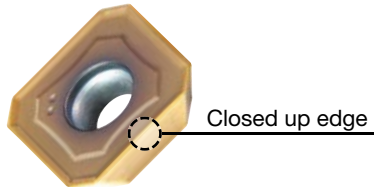
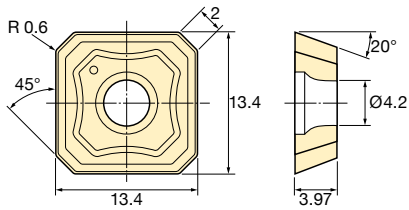
	Parts	Carbide Seat		Screw for Seat		Wrench for Seat (H3.5)	
		Type \varnothing 100-250	ID-Code ET058	Item-Code 212-271	ID-Code ET059	Item-Code 212-280	ID-Code ET057

* The seat must be installed so that the surface indicated by * is facing the outside of the cutter.

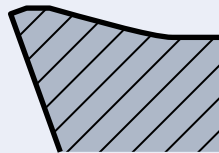
* In consideration of reducing environmental loads, the screwdriver and wrench for seat are now sold separately to avoid sending unnecessary duplicate tools. We hope you will understand our reasoning.

Indexable Milling Tools

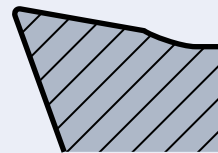
INSERTS AFE45 | Face Mill AFE45 Type



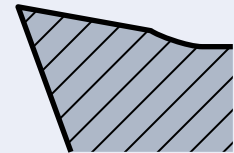
Cross sections of cutting edges:



SEM/ET - AGTN
negative honing
+ R-honing



SEET AGEN-S
R-honing
+ chip breaker



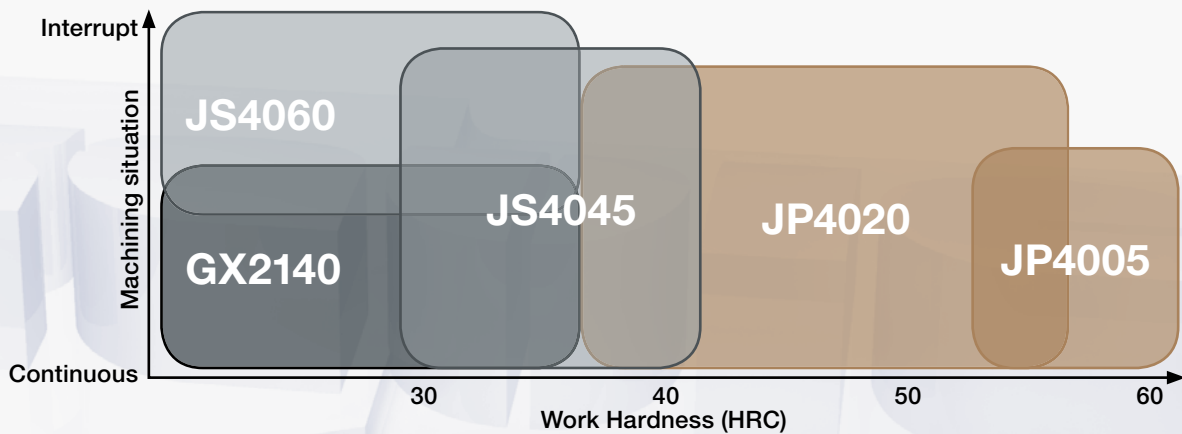
SEET AGFN-S
Sharp edge
+ chip breaker

Grade Info	Tolerance Class	Target material	Grade						
			JP4005	JP4020	JS4045	JS4060	JM4060	GX2140	SD5010
			Hardened steel	Hardened steel Cast iron SUS	General steel	Mild steel	SUS	Mild steel Cast iron	Aluminium
		Coolant	Emulsion Mist Air-blow	Emulsion Mist Air-blow	Air-blow	Emulsion Mist Air-blow	Emulsion Mist Air-blow	Air-blow	Emulsion Mist Air-blow
Item Code		Target hardness	> 50HRC	> 40HRC	> 30HRC	35HRC >	-	35HRC >	-
			ID-Code						
SEMT13T3AGTN	M	Nega honing + chip breaker		WF219	WF251	WF220		WF250	
SEET13T3AGTN	E	Nega honing + chip breaker	WF248	WF217	WF249	WF218	WF247	WF246	
SEET13T3AGEN-S	E	R honing + chip breaker		WF215	WF245		WF244		
SEET13T3AGFN-S	E	Sharp edge + chip breaker							WF216

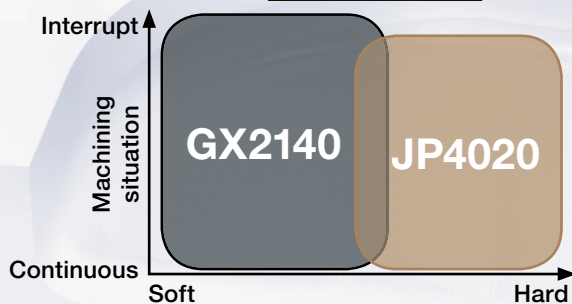
SD5010: DLC coated grade for Aluminium

AFE45 Insert grade – target material

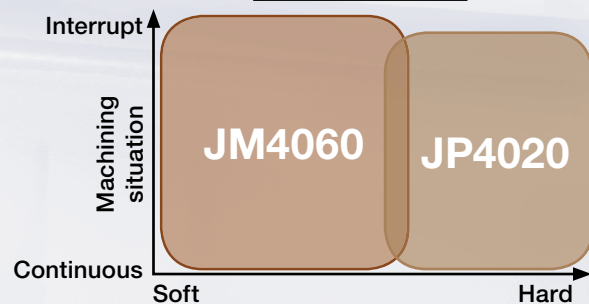
Mild steel ~ Hardened steel



Cast iron



SUS



Product Range

Solid Carbide End Mills

micro**EndMill**

CBN
Cubic Boron Nitride

HD
COATING

Epoch21

MINIATURE

3D-Cut



Indexable Milling Tools

Indexable
Milling

ESM Speed End Mills

EMC Power Drills

ESM
SPEED

Milling Chucks

Milling
Chucks

Distributed by:



Hitachi Tool Engineering Europe GmbH

Itterpark 12 · 40724 Hilden · Germany · Phone +49 (0) 21 03 – 24 82-0 · Fax +49 (0) 21 03 – 24 82-30

e-Mail info@hitachitool-eu.com · Internet www.hitachitool-eu.com

© 2013 by Hitachi Tool Engineering Europe GmbH · Printed in Germany