

NPA

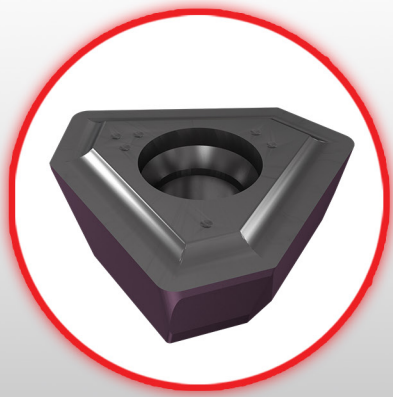
New Product Announcement

DRILLING

34-2020

AUGUST 2020 • METRIC

PAGE 1 / 6



ISCAR DEEP DRILL

**Deep Hole Drilling Heads
Expansion of TPMX Inserts
with New Grade IC806**

ISCAR DEEP DRILL

Highlights

New PVD Grade IC806 dedicated for drilling heat resistant superalloys and difficult-to-cut steels

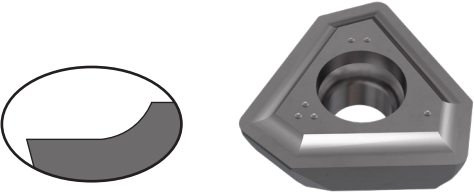
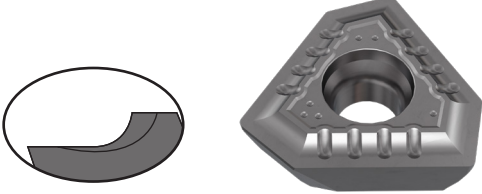
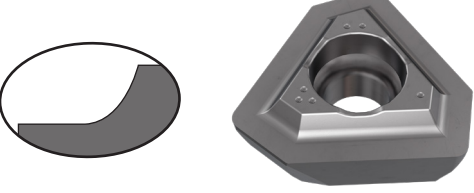
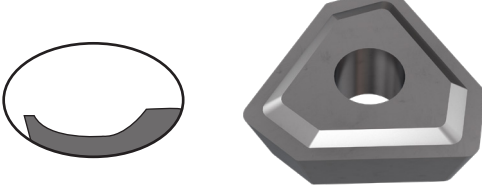
Carbide grade IC806 shows a significant increase in tool life (more than double when compared with IC908) in drilling heat resistant superalloys (HRSA), titanium and austenitic stainless steel, including difficult-to-cut duplex and super duplex stainless steel (ISO S group), IC806 has proved its effectiveness when drilling hard steel and cast iron (ISO H group).

Grade IC806 also may be considered as an optional carbide grade when drilling steel and cast iron (ISO P and ISO K groups correspondingly).

In addition, the line of “B” type chip formers has been expanded with an new increased corner radius, to match other chip formers in the family.

The new grade IC806 will be applied to all TPMX inserts (sizes and chip formers).

Chip Breaker Selection

<p>G</p>  <p>Versatile</p>	<p>B</p>  <p>Good chip control for heat-resistant alloy</p>
<p>BG</p>  <p>Chip control for difficult-to-cut steel</p>	<p>DT</p>  <p>To reduce machine load</p>

ISCARDEEPDRILL

General Data

Production category: Indexable insert drill for BTA machines

Application areas: Carbon steel, alloy steel, cast iron, heat resistant super alloys, titanium and stainless steels (ISO S group)

Diameter range: Ø38.00 mm - Ø293.99 mm

Target markets: Die & mold, heavy equipment, power generation, and other heavy industries

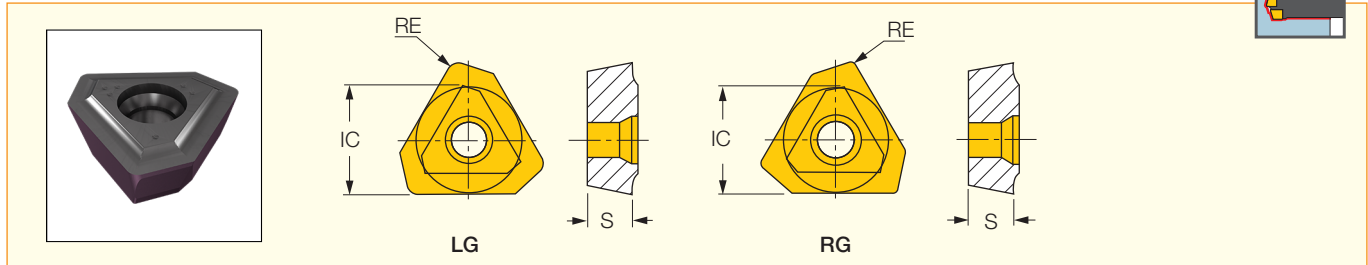
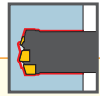
Potential competitors: Brazed gundrills, BTA drills

- IC806 is a PVD coated grade that ensures excellent adhesion to the substrate to provide hardness and wear resistance for improved tool life
- Inserts with large corner radius combined with “B” type chip breaker, improve fracture resistance and prolong tool life during machining of HRSA's

ISCAR DEEP DRILL

TPMX

Inserts for Drilling Heads DSD-EC / DDD-EC / DSD-IC / DSC-EC / DSC-IC



Designation	Dimensions			Tough ↔ Hard				
	IC	S	RE	IC9025	IC908	IC520	IC920	IC806 NEW
TPMX 140304R-B	8.45	3.50	0.40	•	•	•	•	•
TPMX 140308R-DT	8.45	3.50	0.80	•	•			
TPMX 140308R-G	8.45	3.50	0.80	•	•	•		•
TPMX 140308R-B	8.45	3.50	0.80					•
TPMX 170404R-B	10.30	4.00	0.40	•	•	•	•	•
TPMX 170408R-B	10.30	4.00	0.80					•
TPMX 170408R-BG	10.30	4.00	0.80		•	•		•
TPMX 170408R-DT	10.30	4.00	0.80	•	•	•		
TPMX 170408R-G	10.30	4.00	0.80	•	•	•		•
TPMX 240504R-B	14.20	5.50	0.40	•	•	•	•	•
TPMX 240512R-BG	14.20	5.50	1.20	•	•	•		•
TPMX 240512R-DT	14.20	5.50	1.20	•	•	•		
TPMX 240512R-G	14.20	5.50	1.20	•	•	•		•
TPMX 240512R-B	14.20	5.50	1.20					•
TPMX 280708R-B	17.00	7.50	0.80	•	•		•	•
TPMX 280716R-BG	17.00	7.50	1.60		•	•		•
TPMX 280716R-DT	17.00	7.50	1.60		•	•		
TPMX 280716R-G	17.00	7.50	1.60	•	•	•		•
TPMX 280716R-B	17.00	7.50	1.60					•
TPMX 140308L-G	8.45	3.50	0.80	•	•			
TPMX 170404L-BG	10.30	4.00	0.40		•			
TPMX 170408L-DT	10.30	4.00	0.80		•			
TPMX 170408L-G	10.30	4.00	0.80	•	•	•		
TPMX 240504L-BG	14.20	5.50	0.40		•			
TPMX 240512L-DT	14.20	5.50	1.20		•			
TPMX 240512L-G	14.20	5.50	1.20	•	•	•		
TPMX 280708L-BG	17.00	7.50	0.80		•			
TPMX 280716L-G	17.00	7.50	1.60	•	•	•		

ISCAR DEEP DRILL

Insert Selection Guide

ISO	Material	Condition	Tensile Strength [N/mm ²]	Hardness HB	Chipbreaker			
					First Choice	Troubleshooting		
						Fracure	Wear	
P	Non-alloy steel and cast steel, free cutting steel	< 0.25 %C	Annealed	420	G IC908	BG IC806	B IC9025	
		>= 0.25 %C	Annealed	650				
		< 0.55 %C	Quenched and tempered	850				
		>= 0.55 %C	Annealed	750				
			Quenched and tempered	1000				
	Low alloy steel and cast steel (less than 5% of alloying elements)	Annealed	600	200	G IC908	BG IC806	B IC9025	
		Quenched and tempered	930	275				
			1000	300				
		1200	350					
	High alloyed steel, cast steel, and tool steel	Annealed	680	200	G IC908	BG IC806	B IC9025	
Quenched and tempered		1100	325					
Stainless steel and cast steel	Ferritic/martensitic	680	200	G IC908	BG IC806	B IC9025		
	Martensitic	820	240					
M	Stainless steel	Austenitic	600	180	G IC806	B IC908	B IC9025	
K	Grey cast iron (GG)	Ferritic/pearlitic		180	G IC908	G IC806	B IC9025	
		Pearlitic		260				
	Nodular cast iron (GGG)	Ferritic		160				
		Pearlitic		250				
	Malleable cast iron	Ferritic		130				
Pearlitic			230					
N	Aluminum-wrought alloy	Not cureable		60	G IC908	G IC806	B IC9025	
		Cured		100				
	Aluminum-cast, alloyed	<=12% Si	Not cureable					75
			Cured					90
		>12% Si	High temperature					130
	Copper alloys	>1% Pb	Free cutting					110
			Brass					90
			Electrolytic copper					100
Non-metallic	Duroplastics, fiber plastics							
	Hard rubber							
S	High temp. alloys	Fe based	Annealed	200	B IC806	B IC908	B IC9025	
			Cured	280				
		Ni or Co based	Annealed	250				
			Cured	350				
			Cast	320				
	Titanium Ti alloys		RM 400					
Alpha+beta alloys cured		RM 1050						
H	Hardened steel	Hardened 55 HRC			B IC806	B IC908	B IC908	
		Hardened 60 HRC						
	Chilled cast iron	Cast	400					
	Cast iron	Hardened 55 HRC						

ISCAR DEEP DRILL

Adjustable Solid Drill Heads
DSD-EC, DDD-EC, DSD-IC

Dia. Range	38.00-39.99	40.00-51.99	52.00-63.99	64.00-84.99	85.00-293.00
Vc (m/min)	Feed Rate f (mm/rev)				
60-120	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3
60-120	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3
60-120	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3
60-120	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3
60-120	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3
60-100	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3
60-100	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3
50-100	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3
50-100	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3
60-120	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3
60-120	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3
60-110	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3
60-110	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3
60-110	0.08-0.15	0.1-0.2	0.13-0.23	0.15-0.25	0.18-0.3
80-140	0.20-0.30	0.20-0.30	0.24-0.32	0.24-0.32	0.25-0.40
80-140	0.20-0.30	0.20-0.30	0.24-0.32	0.24-0.32	0.25-0.40
80-140	0.20-0.30	0.20-0.30	0.24-0.32	0.24-0.32	0.25-0.40
80-140	0.20-0.30	0.20-0.30	0.24-0.32	0.24-0.32	0.25-0.40
80-140	0.20-0.30	0.20-0.30	0.24-0.32	0.24-0.32	0.25-0.40
80-140	0.20-0.30	0.20-0.30	0.24-0.32	0.24-0.32	0.25-0.40
100-200	0.08-0.2	0.1-0.25	0.13-0.28	0.15-0.3	0.18-0.33
100-200	0.08-0.2	0.1-0.25	0.13-0.28	0.15-0.3	0.18-0.33
100-200	0.08-0.2	0.1-0.25	0.13-0.28	0.15-0.3	0.18-0.33
100-200	0.08-0.2	0.1-0.25	0.13-0.28	0.15-0.3	0.18-0.33
100-200	0.08-0.2	0.1-0.25	0.13-0.28	0.15-0.3	0.18-0.33
100-200	0.08-0.2	0.1-0.25	0.13-0.28	0.15-0.3	0.18-0.33
100-200	0.08-0.2	0.1-0.25	0.13-0.28	0.15-0.3	0.18-0.33
100-200	0.08-0.2	0.1-0.25	0.13-0.28	0.15-0.3	0.18-0.33
60-130	0.08-0.2	0.1-0.25	0.13-0.28	0.15-0.3	0.18-0.33
60-130	0.08-0.2	0.1-0.25	0.13-0.28	0.15-0.3	0.18-0.33
20-65	0.06-0.13	0.08-0.18	0.13-0.23	0.13-0.23	0.18-0.28
20-65	0.06-0.13	0.08-0.18	0.13-0.23	0.13-0.23	0.18-0.28
20-65	0.06-0.13	0.08-0.18	0.13-0.23	0.13-0.23	0.18-0.28
30-100	0.06-0.13	0.08-0.18	0.13-0.23	0.13-0.23	0.18-0.28
30-100	0.06-0.13	0.08-0.18	0.13-0.23	0.13-0.23	0.18-0.28
30-60	0.06-0.13	0.08-0.18	0.13-0.23	0.13-0.23	0.18-0.28
30-60	0.06-0.13	0.08-0.18	0.13-0.23	0.13-0.23	0.18-0.28
30-80	0.06-0.13	0.08-0.18	0.13-0.23	0.13-0.23	0.15-0.28
30-80	0.06-0.13	0.08-0.18	0.13-0.23	0.13-0.23	0.15-0.28
30-80	0.06-0.13	0.08-0.18	0.13-0.23	0.13-0.23	0.15-0.28
30-80	0.06-0.13	0.08-0.18	0.13-0.23	0.13-0.23	0.15-0.28