Carmex Precision Tools Ltd.

x-treme thread cutting™

25th Anniversary

Test Report

Application
External right hand thread: M32x1.5
Thread length: 2.6 inches

Work piece material
Hardened steel D2: 53-56 HRc

Tool description
Thread turning insert 16 ER 1.5 ISO HBA
Toolholder: SER 0750 K16

Cutting conditions
Cutting speed: 148 ft/min
Number of passes: 28
Coolant: yes

Results
Number of threads per corner: 36

Carmex Precision Tools LLC
2075 Hwy 175, Richfield, WI 53076
Phone: 888 628-5030, Fax: 888 628-5302.
E-mail: sales@carmexusa.com Website: www.carmexusa.com

CARMEX HBA INCH 01/2014

Carmex Precision Tools Ltd.

x-treme thread cutting™

New

HBA grade

Takes on the toughest materials

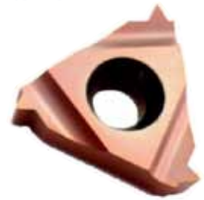
Inch 2014 - 15

Carmex introduces HBA, a new extra-fine sub-micron grade with high toughness for optimized performance.

Threading of fully hardened and tough materials is increasing due to requirements from manufacturers to avoid thread distortions and reduce lead time.

Thread turning inserts for machining materials harder than 40 HRc require an optimized combination of carbide substrate, coating type and edge conditions.

To meet this market need, Carmex is introducing HBA, a new extra-fine high-strength sub-micron grade for optimized performance on:

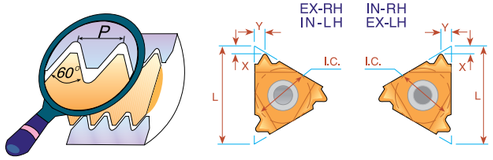


- **Hardened Steels and Cast Iron up to 62 HRc.**
- **Titanium Alloys and Super Alloys (Hastelloy, Inconel and Nickel base alloys).**

Advantages:

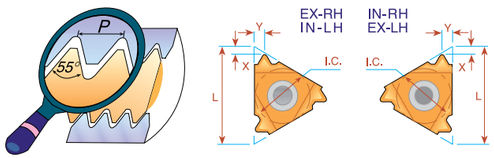
- **High wear and heat resistance**
- **Excellent edge stability**
- **Unique coating structure**

Partial Profile 60°



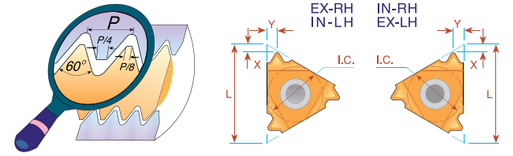
L mm	I.C.	Pitch Range mm	Pitch Range TPI	EXTERNAL Ordering Code Right Hand	INTERNAL Ordering Code Right Hand	X	Y
16	3/8	0.5-1.5	48-16	**16 ER A60**	**16 IR A60**	.03	.04
		1.75-3.0	14-8	**16 ER G60**	**16 IR G60**	.05	.07
		0.5-3.0	48-8	**16 ER AG60**	**16 IR AG60**		

Partial Profile 55°



L mm	I.C.	Pitch Range mm	Pitch Range TPI	EXTERNAL Ordering Code Right Hand	INTERNAL Ordering Code Right Hand	X	Y
16	3/8	0.5-1.5	48-16	**16 ER A55**	**16 IR A55**	.03	.04
		1.75-3.0	14-8	**16 ER G55**	**16 IR G55**	.05	.07
		0.5-3.0	48-8	**16 ER AG55**	**16 IR AG55**		

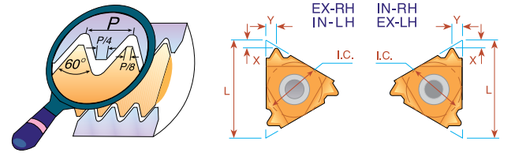
ISO - metric



Pitch mm	L mm	I.C.	EXTERNAL Ordering Code Right Hand	X	Y	INTERNAL Ordering Code Right Hand	X	Y
1.0	16	3/8	**16 ER 1.0 ISO**	.03	.03	**16 IR 1.0 ISO**	.02	.03
1.25			**16 ER 1.25 ISO**	.03	.04	**16 IR 1.25 ISO**	.03	.04
1.5			**16 ER 1.5 ISO**	.03	.04	**16 IR 1.5 ISO**	.03	.04
1.75			**16 ER 1.75 ISO**	.04	.05	**16 IR 1.75 ISO**	.04	.05
2.0			**16 ER 2.0 ISO**	.04	.05	**16 IR 2.0 ISO**	.04	.05
2.5			**16 ER 2.5 ISO**	.04	.06	**16 IR 2.5 ISO**	.04	.06
3.0			**16 ER 3.0 ISO**	.05	.06	**16 IR 3.0 ISO**	.04	.06

***UN -** Unified*

UNC, UNF, UNEF, UNS



Pitch TPI	L mm	I.C.	EXTERNAL Ordering Code Right Hand	X	Y	INTERNAL Ordering Code Right Hand	X	Y
28	16	3/8	**16 ER 28 UN**	.02	.03	**16 IR 28 UN**	.02	.03
24			**16 ER 24 UN**	.03	.03	**16 IR 24 UN**	.03	.03
20			**16 ER 20 UN**	.03	.04	**16 IR 20 UN**	.03	.04
18			**16 ER 18 UN**	.03	.04	**16 IR 18 UN**	.03	.04
16			**16 ER 16 UN**	.04	.04	**16 IR 16 UN**	.04	.05
14			**16 ER 14 UN**	.04	.05	**16 IR 14 UN**	.04	.05
12			**16 ER 12 UN**	.04	.06	**16 IR 12 UN**	.04	.06