

# Grooving Tools



## A combination of ground profile and sintered chip - breaker

### Advantages:

- Same Toolholder for Grooving and Threading
  - Minimum Investment in Tooling
    - Three Cutting Edges
    - Precision Ground

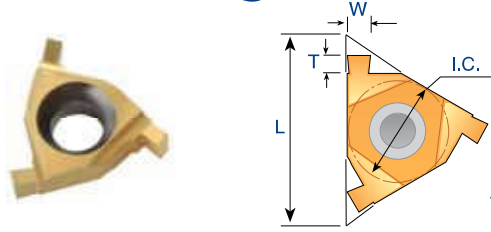
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## Grooving Inserts



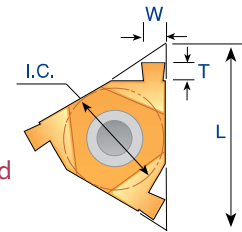
### External & Internal

#### ER / IL

Same insert can be used for EX.RH and for IN.LH.

#### IR / EL

Same insert can be used for IN.RH and for EX.LH.



W ±0.02	T	I.C. in	L mm	Ordering Code		Ordering Code	
				ER/IL Inserts	Anvil	IR/EL Inserts	Anvil
0.50	1.4	1/4	11	<b>11 ER/IL 0.50</b>	-	<b>11 IR/EL 0.50</b>	-
0.60	1.4	1/4	11	<b>11 ER/IL 0.60</b>	-	<b>11 IR/EL 0.60</b>	-
0.70	1.4	1/4	11	<b>11 ER/IL 0.70</b>	-	<b>11 IR/EL 0.70</b>	-
0.80	1.4	1/4	11	<b>11 ER/IL 0.80</b>	-	<b>11 IR/EL 0.80</b>	-
1.00	1.4	1/4	11	<b>11 ER/IL 1.00</b>	-	<b>11 IR/EL 1.00</b>	-
1.20	1.4	1/4	11	<b>11 ER/IL 1.20</b>	-	<b>11 IR/EL 1.20</b>	-
0.50	1.4	3/8	16	<b>16 ER/IL 0.50</b>	AE 16-0	<b>16 IR/EL 0.50</b>	AI 16-0
1.00	1.4	3/8	16	<b>16 ER/IL 1.00</b>	AE 16-0	<b>16 IR/EL 1.00</b>	AI 16-0
1.20	1.6	3/8	16	<b>16 ER/IL 1.20</b>	AE 16-0	<b>16 IR/EL 1.20</b>	AI 16-0
1.40	1.8	3/8	16	<b>16 ER/IL 1.40</b>	AE 16-0	<b>16 IR/EL 1.40</b>	AI 16-0
1.70	2.0	3/8	16	<b>16 ER/IL 1.70</b>	AE 16-0	<b>16 IR/EL 1.70</b>	AI 16-0
1.95	2.0	3/8	16	<b>16 ER/IL 1.95</b>	AE 16-0	<b>16 IR/EL 1.95</b>	AI 16-0
2.25	2.25	3/8	16	<b>16 ER/IL 2.25</b>	AE 16-0	<b>16 IR/EL 2.25</b>	AI 16-0

Order example: 16 ER/IL 1.20 BXC

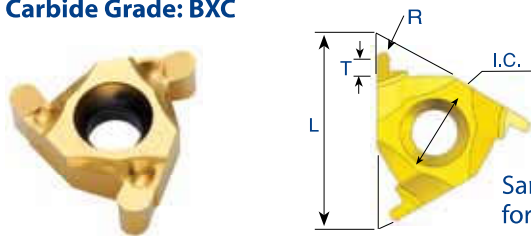
\* The inserts should be used with our standard threading toolholders

\* The anvil must be changed to AE 16-0 or AI 16-0 before using size 16mm (3/8") inserts

\* Size 16 internal holders without anvil can't be used

## Grooving Inserts for Snap Ring

Carbide Grade: BXC



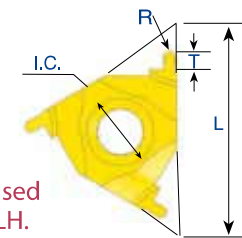
### External & Internal Partial Profile Inserts

#### ER / IL

Same insert can be used for EX.RH and for IN.LH.

#### IR / EL

Same insert can be used for IN.RH and for EX.LH.



R ±0.04	T	I.C. in	L mm	Ordering Code		Ordering Code	
				ER/IL Inserts	Anvil	IR/EL Inserts	Anvil
0.5	1.4	3/8	16	<b>16 ER/IL R0.50</b>	AE 16 - 0	<b>16 IR/EL R0.50</b>	AI 16 - 0
0.6	1.6	3/8	16	<b>16 ER/IL R0.60</b>	AE 16 - 0	<b>16 IR/EL R0.60</b>	AI 16 - 0
0.9	2.0	3/8	16	<b>16 ER/IL R0.90</b>	AE 16 - 0	<b>16 IR/EL R0.90</b>	AI 16 - 0
1.0	2.0	3/8	16	<b>16 ER/IL R1.00</b>	AE 16 - 0	<b>16 IR/EL R1.00</b>	AI 16 - 0
1.1	2.15	3/8	16	<b>16 ER/IL R1.10</b>	AE 16 - 0	<b>16 IR/EL R1.10</b>	AI 16 - 0
1.2	2.25	3/8	16	<b>16 ER/IL R1.20</b>	AE 16 - 0	<b>16 IR/EL R1.20</b>	AI 16 - 0

Order example: 16ER/IL R1.20 BXC

\* The inserts should be used with our standard threading toolholders

\* The anvil must be changed to AE 16-0 or AI 16-0 before using size 16mm (3/8") inserts

\* Size 16 internal holders without anvil can't be used

## Grooving Kits



### ER / IL INSERT KGRO - EXTERNAL

16	ER / IL	1.0	BXC	1 unit
16	ER / IL	1.2	BXC	1 unit
16	ER / IL	1.4	BXC	1 unit
16	ER / IL	1.7	BXC	1 unit
16	ER / IL	1.95	BXC	1 unit
16	ER / IL	2.25	BXC	1 unit

ANVIL AE 16 - 0 1 unit

### IR / EL INSERT KGRO - INTERNAL

16	IR / EL	1.0	BXC	1 unit
16	IR / EL	1.2	BXC	1 unit
16	IR / EL	1.4	BXC	1 unit
16	IR / EL	1.7	BXC	1 unit
16	IR / EL	1.95	BXC	1 unit
16	IR / EL	2.25	BXC	1 unit

ANVIL AI 16 - 0 1 unit



## Technical Section

### Cutting Speeds for Grooving Tools

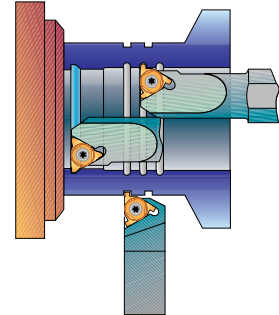
#### Carbide Grades:

**BXC** (P30 - P50, K25 - K40)

PVD TiN coated grade for low cutting speed. Works well with a wide range of stainless steels.

**BMA** (P20 - P40, K20 - K30)

PVD TiAlN coated sub-micrograin grade for stainless steels and exotic materials at medium to high cutting speeds.



ISO Standard	Materials	Cutting Speed m/min
<b>P</b>	Low & Medium Carbon Steel	20-100
	High Carbon Steel	30- 80
	Alloy Steels and Treated Steels	40- 90
<b>M</b>	Stainless Steels	30- 80
	Cast Steels	30- 90
<b>K</b>	Cast Iron	30- 90
<b>N</b>	Non-Ferrous and Aluminum	20-200

For grooving small bores see pages 89-95

