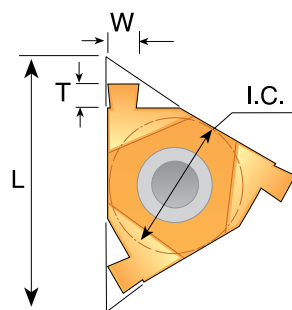


Grooving Inserts

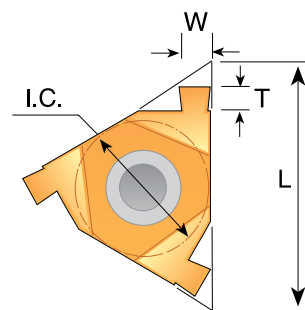
Carbide – Internal & External



**CARBIDE GRADE BXC: P30-P50
K25-K40**



External Right Hand
or Internal Left Hand



Internal Right Hand
or External Left Hand

- PVD TiN coated grade for low cutting speed
- Works well with a wide range of steel and stainless steel

NOTE: Shim must be changed to AE 16-0 or AI 16-0
Change shim from threading to grooving and use the same threading toolholder

Internal IR/EL

| Description | I.C. (Inch) | W ±0.001" (Inch) | T (Inch) | L (mm) | Code |
|-----------------|----------------|------------------------|-------------|-----------|--------|
| 16 IR/EL 0.039 | 3/8 | 0.039 | 0.055 | 16 | 570685 |
| 16 IR/EL 0.047 | 3/8 | 0.047 | 0.063 | 16 | 570686 |
| 16 IR/EL 0.055 | 3/8 | 0.055 | 0.071 | 16 | 570687 |
| 16 IR/EL 0.067 | 3/8 | 0.067 | 0.079 | 16 | 570688 |
| 16 IR/EL 0.077 | 3/8 | 0.077 | 0.079 | 16 | 570689 |
| 16 IR/EL 0.089 | 3/8 | 0.089 | 0.089 | 16 | 570690 |
| SHIM -- AI 16-0 | – | – | – | – | 570691 |

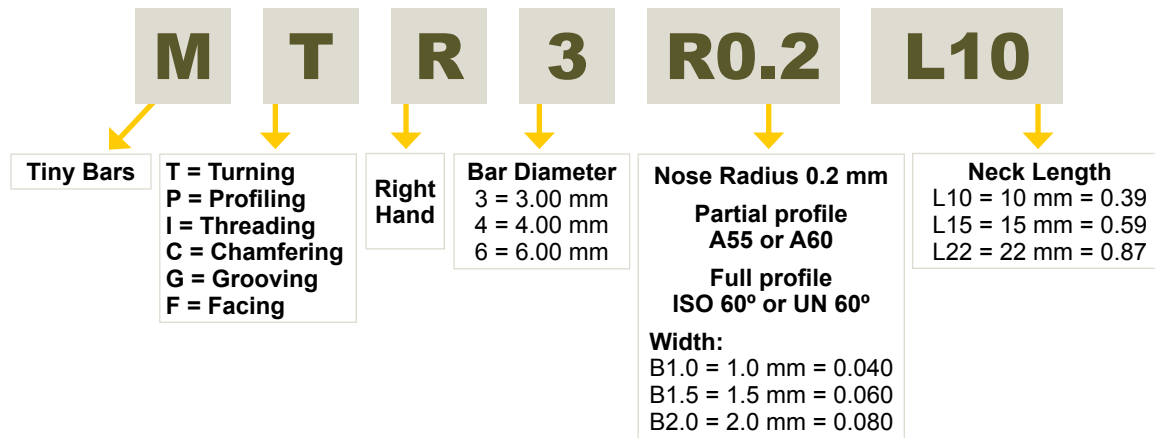
External ER/IL

| Description | I.C. (Inch) | W ±0.001" (Inch) | T (Inch) | L (mm) | Code |
|-----------------|----------------|------------------------|-------------|-----------|--------|
| 16 ER/IL 0.039 | 3/8 | 0.039 | 0.055 | 16 | 570675 |
| 16 ER/IL 0.047 | 3/8 | 0.047 | 0.063 | 16 | 570676 |
| 16 ER/IL 0.055 | 3/8 | 0.055 | 0.071 | 16 | 570677 |
| 16 ER/IL 0.067 | 3/8 | 0.067 | 0.079 | 16 | 570678 |
| 16 ER/IL 0.077 | 3/8 | 0.077 | 0.079 | 16 | 570679 |
| 16 ER/IL 0.089 | 3/8 | 0.089 | 0.089 | 16 | 570680 |
| SHIM -- AE 16-0 | – | – | – | – | 570681 |

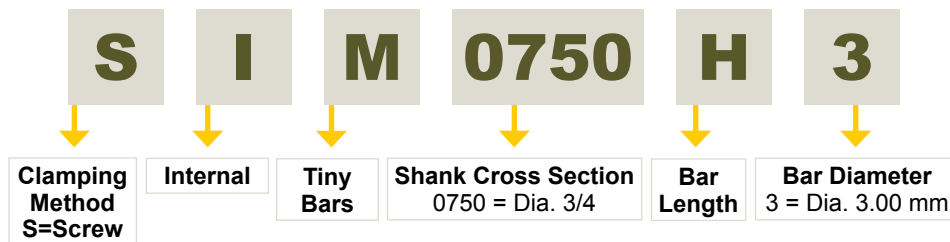
Recommended Cutting Speeds

| ISO | Materials | Cutting Speed m/min (ft/min) |
|----------|------------------------------|---------------------------------|
| P | Low and medium carbon steels | 20-100 (66-330) |
| | High carbon steels | 30-80 (100-265) |
| | Alloy steels, treated steels | 40-90 (132-300) |
| M | Stainless steels | 30-80 (100-265) |
| | Cast steels | 30-90 (100-300) |
| K | Cast Iron | 30-90 (100-300) |
| N | Non-ferrous and Aluminum | 20-200 (66-660) |

Tiny Tools Identification Guide



Tiny Bar Holders Identification Guide



Recommended Cutting Speeds

| ISO | Materials | Cutting Speed ft/min |
|----------|------------------------------|-------------------------|
| P | Low and medium carbon steels | 65-460 |
| | High carbon steels | 100-330 |
| | Alloy steels, treated steels | 130-300 |
| M | Stainless steels | 65-300 |
| | Cast steels | 130-300 |
| K | Cast iron | 130-390 |
| N | Non-ferrous and aluminum | 160-390 |
| H | Hardened materials | 40-100 |
| S | Super alloy and titanium | 50-100 |

Threading Passes

| Pitch | | Number of Passes |
|-------|-----|------------------|
| mm | TPI | |
| 0.50 | 48 | 6-12 |
| 0.70 | 36 | 7-14 |
| 0.80 | 32 | 7-16 |
| 1.00 | 24 | 8-18 |
| 1.25 | 20 | 8-20 |
| 1.50 | 16 | 10-22 |

RECOMMENDED FEED RATE:

0.0005-0.001 inch/rev

Tiny Tools

Solid Carbide – For Working on Small Bores



**CARBIDE GRADE BXC: P30-P50
K25-K40**

- Bar diameter: 4mm
- PVD TiN coated grade for low cutting speed
- Works well with a wide range of steel and stainless steel

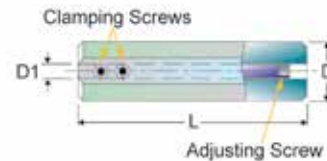
Complete Set Includes: Boring bar 570094, profiling bar 570072, threading bar 570078, chamfering bar 570084, grooving bar 570088, face grooving bar 570089, bar holder 570104, and a Torx®15 key

| Description | Code |
|-------------------------|--------|
| Tiny Tools Complete Set | 570110 |
| Boring Bar | 570094 |
| Profiling Bar | 570072 |
| Threading Bar | 570078 |
| Chamfering Bar | 570084 |
| Grooving Bar | 570088 |
| Face Grooving Bar | 570089 |
| Bar Holder | 570104 |

BAR HOLDER



3/4" DIAMETER



Bar Holders

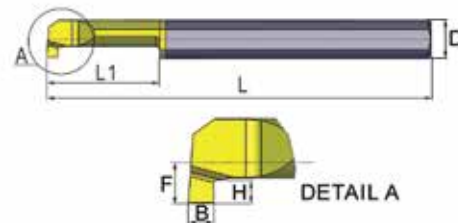
| D1 (mm) | L Inch (mm) | D Inch (mm) | Reference Key | Code |
|---------|-------------|--------------|---------------|--------|
| 3.0 | 3.5 (89) | 0.75 (19.05) | Torx®15 | 570102 |
| 4.0 | 3.5 (89) | 0.75 (19.05) | Torx®15 | 570104 |
| 6.0 | 3.5 (89) | 0.75 (19.05) | Torx®15 | 570106 |

Screws

| Description | Reference Key | Code |
|---------------------------------|---------------|--------|
| Clamping Screw for Bar Holders | Torx®15 | 570S25 |
| Adjusting Screw for Bar Holders | Torx®15 | 570S35 |

Grooving Bars – Coolant Through

MGR - GROOVING BARS



| D (mm) | L Inch (mm) | L1 Inch (mm) | B Inch (mm) | H Inch (mm) | F Inch (mm) | Minimum Bore Diameter Inch (mm) | Reference Holders | Code |
|--------|-------------|--------------|-------------|-------------|-------------|---------------------------------|-------------------|--------|
| 4.0 | 2.0 (50) | 0.39 (10) | 0.06 (1.5) | 0.04 (1.0) | 0.07 (1.7) | 0.16 (4.1) | 570104 | 570088 |
| 6.0 | 2.0 (50) | 0.59 (15) | 0.08 (2.0) | 0.06 (1.5) | 0.11 (2.8) | 0.24 (6.1) | 570106 | 570090 |

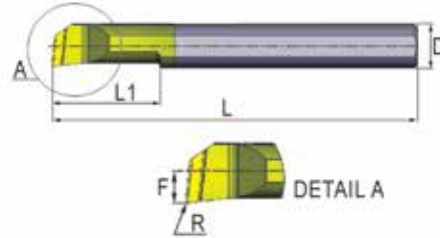
Tiny Tools



Solid Carbide – For Working on Small Bores (continued)

Boring Bars – Coolant Through

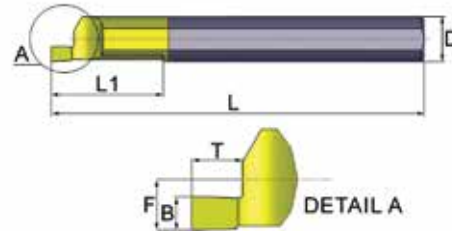
MTR - BORING BARS



| D (mm) | L Inch (mm) | L1 Inch (mm) | R Inch (mm) | F Inch (mm) | Minimum Bore Diameter Inch (mm) | Reference Holders | Code |
|--------|-------------|--------------|--------------|-------------|---------------------------------|-------------------|--------|
| 3.0 | 1.5 (39) | 0.39 (10) | 0.006 (0.15) | 0.03 (0.8) | 0.08 (2.1) | 570102 | 570092 |
| 4.0 | 2.0 (50) | 0.59 (15) | 0.008 (0.20) | 0.07 (1.7) | 0.16 (4.1) | 570104 | 570094 |
| 6.0 | 2.0 (50) | 0.87 (22) | 0.008 (0.20) | 0.11 (2.8) | 0.24 (6.1) | 570106 | 570096 |

Face Grooving Bars – Coolant Through

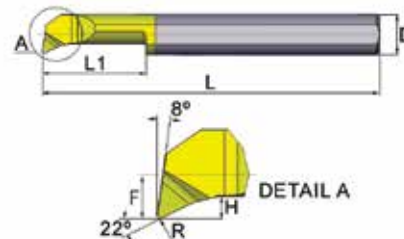
MFR - FACE GROOVING BARS



| D (mm) | L Inch (mm) | L1 Inch (mm) | B Inch (mm) | T Inch (mm) | F Inch (mm) | Minimum Bore Diameter Inch (mm) | Reference Holders | Code |
|--------|-------------|--------------|-------------|-------------|-------------|---------------------------------|-------------------|--------|
| 4.0 | 2.0 (50) | 0.59 (15) | 0.03 (0.75) | 0.05 (1.2) | 0.08 (2.1) | 0.20 (5.0) | 570104 | 570089 |
| 6.0 | 2.0 (50) | 0.87 (22) | 0.04 (1.00) | 0.06 (1.5) | 0.12 (3.0) | 0.31 (8.0) | 570106 | 570101 |

Profiling Boring Bars – Coolant Through

MPR - PROFILING BORING BARS



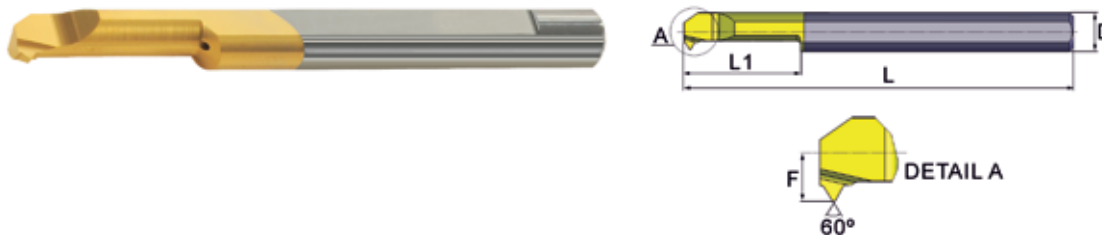
| D (mm) | L Inch (mm) | L1 Inch (mm) | R Inch (mm) | H Inch (mm) | F Inch (mm) | Minimum Bore Diameter Inch (mm) | Reference Holders | Code |
|--------|-------------|--------------|--------------|-------------|-------------|---------------------------------|-------------------|--------|
| 3.0 | 1.5 (39) | 0.39 (10) | 0.006 (0.15) | 0.02 (0.5) | 0.03 (0.8) | 0.08 (2.1) | 570102 | 570070 |
| 4.0 | 2.0 (50) | 0.59 (15) | 0.008 (0.20) | 0.03 (1.0) | 0.07 (1.7) | 0.16 (4.1) | 570104 | 570072 |
| 6.0 | 2.0 (50) | 0.87 (22) | 0.008 (0.20) | 0.06 (1.5) | 0.11 (2.8) | 0.24 (6.1) | 570106 | 570074 |

Tiny Tools

Solid Carbide – For Working on Small Bores (*continued*)

Threading Bars – Partial Profile 60° – Coolant Through

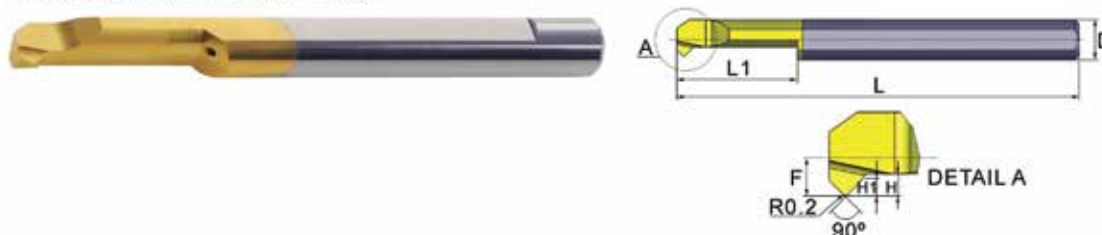
MIR - THREADING BARS - PARTIAL PROFILE 60°



| D (mm) | L Inch (mm) | L1 Inch (mm) | Pitch Range (TPI) | Pitch Range (mm) | F Inch (mm) | Minimum Bore Diameter Inch (mm) | Reference Holders | Code |
|--------|-------------|--------------|-------------------|------------------|-------------|---------------------------------|-------------------|--------|
| 3.0 | 1.5 (39) | 0.59 (15) | 32-24 | 0.8-1.0 | 0.06 (1.4) | 0.13 (3.2) | 570102 | 570076 |
| 4.0 | 2.0 (50) | 0.59 (15) | 32-24 | 0.8-1.0 | 0.07 (1.7) | 0.16 (4.1) | 570104 | 570078 |
| 6.0 | 2.0 (50) | 0.59 (15) | 24-16 | 1.0-1.5 | 0.09 (2.2) | 0.24 (6.1) | 570106 | 570080 |

Chamfering Boring Bars – Coolant Through

MCR - CHAMFERING BORING BARS



| D (mm) | L Inch (mm) | L1 Inch (mm) | R Inch (mm) | H Inch (mm) | H1 Inch (mm) | F Inch (mm) | Minimum Bore Diameter Inch (mm) | Reference Holders | Code |
|--------|-------------|--------------|--------------|-------------|--------------|-------------|---------------------------------|-------------------|--------|
| 3.0 | 1.5 (39) | 0.39 (10) | 0.008 (0.20) | 0.03 (0.8) | 0.01 (0.3) | 0.05 (1.3) | 0.12 (3.1) | 570102 | 570082 |
| 4.0 | 2.0 (50) | 0.59 (15) | 0.008 (0.20) | 0.03 (0.8) | 0.02 (0.4) | 0.07 (1.7) | 0.16 (4.1) | 570104 | 570084 |
| 6.0 | 2.0 (50) | 0.59 (15) | 0.008 (0.20) | 0.06 (1.5) | 0.03 (0.7) | 0.11 (2.8) | 0.24 (6.1) | 570106 | 570086 |