

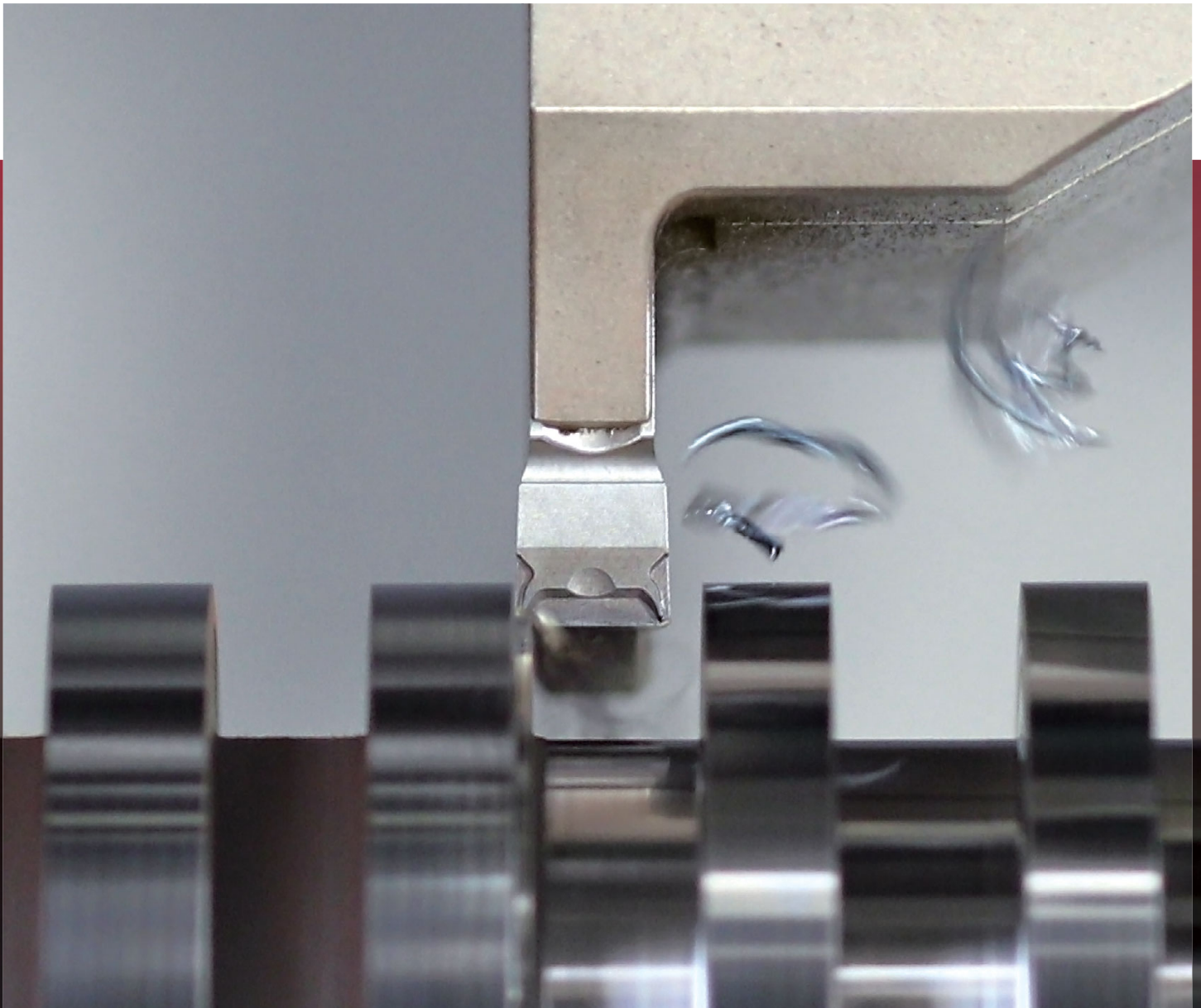


Grooving and parting-off tool

TUNGCUT

Tungaloy Report No. 391S9-US

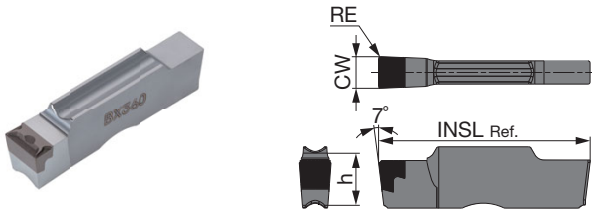
CBN-tipped inserts with integrated 3D chipbreaker



INSERTS

STX

External, face grooving



| | | | | | | | | | | |
|----------|----------------|---|--|--|--|--|--|--|--|------------------|
| P | Steel | | | | | | | | | |
| M | Stainless | | | | | | | | | |
| K | Cast iron | | | | | | | | | |
| N | Non-ferrous | | | | | | | | | |
| S | Superalloys | | | | | | | | | |
| H | Hard materials | ★ | | | | | | | | ★ : First choice |



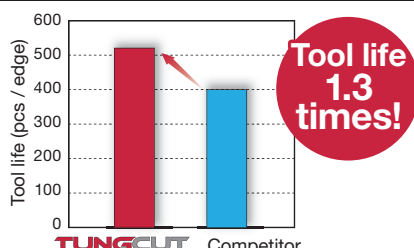
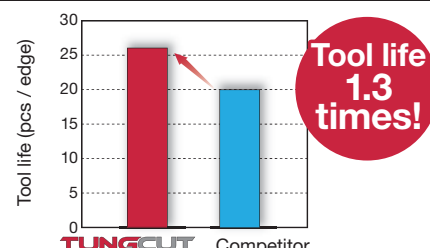
| Designation | Seat size | CW±0.001" | RE | CBN | | | | | | INSL | h |
|-------------|-----------|-----------|-------|-------|--|--|--|--|--|-------|-------|
| | | | | BX360 | | | | | | | |
| STX200-020 | 2 | 0.079 | 0.008 | ● | | | | | | 0.787 | 0.197 |
| STX300-020 | 3 | 0.118 | 0.008 | ● | | | | | | 0.787 | 0.197 |
| STX400-020 | 4 | 0.157 | 0.008 | ● | | | | | | 0.787 | 0.197 |
| STX500-020 | 5 | 0.197 | 0.008 | ● | | | | | | 0.984 | 0.217 |

● : New

STANDARD CUTTING CONDITIONS

| ISO | Workpiece material | Hardness | Priority | Grade | Cutting speed Vc (sfm) |
|----------|---------------------|----------|--------------|-------|------------------------|
| H | External grooving | | | | |
| | Groove wall cutting | > 50 HRC | First choice | BX360 | 260 - 490 |
| | Side turning | | | | |
| | Internal grooving | | | | |
| | Face grooving | > 50 HRC | First choice | BX360 | 260 - 390 |

PRACTICAL EXAMPLES

| Workpiece type | | Piston head | Shaft |
|--------------------|-----------------------------|---|---|
| Toolholder | | CTEL16-5T12 | CTER16-4T10 |
| Insert | | STX500-020 | STX5400-020 |
| Grade | | BX360 | BX360 |
| Workpiece material | | Low carbon alloy steel (50 - 60 HRC) | H13 (58 - 62 HRC) |
| | |  H |  H |
| Cutting conditions | Cutting speed : V_c (sfm) | 320 - 350 (for groove walls), 260 (for side-turning) | 390 |
| | Feed : f (ipr) | 0.001 (for groove walls), 0.003 (for side-turning) | 0.002 (for groove walls), 0.004 (for side-turning) |
| | Groove width : CW (in) | 0.197 | 0.157 |
| | Machining | External grooving, wall cutting, and side turning | External grooving, wall cutting, and side turning |
| | Coolant | Wet | Wet |
| Results | |  <p>TungCut CBN tipped STX insert provided excellent chip control, while eliminating nesting of chips. As a result, tool life increased by 1.3 times.</p> |  <p>TungCut CBN tipped STX insert provided excellent chip control, while eliminating bird nesting of chips. As a result, tool life increased by 1.3 times.</p> |



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