

TETRA^{FORCE}CUT

Tungaloy Report No. 416S3-US

TetraForce-Cut **TCL38 insert** for
deep grooving and parting processes





For more information

- Unique insert clamping method provides high repeatability and stability for effective deep grooving and parting applications
- Light cutting geometry ensures consistent chip control for reduced chatter
- Efficient multi-edged insert solution for OD grooving and parting applications exceeding 0.252" (6.4 mm) in cutting depth
- Economical 4-edge insert
- Precision coolant delivery ensures effective chip removal during deep grooving

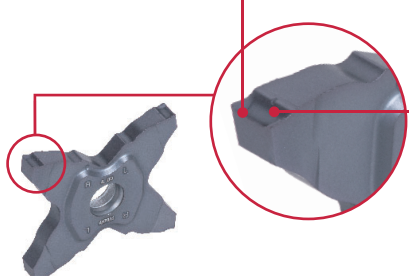


CUTTING PERFORMANCE

Chipbreaker features

Large positive rake angle

Provides sharp cutting edge and low cutting force that eliminate burr formation and chatter



Large dimple on the rake face

Ensures reliable chip removal during a low feed motion

CHP type toolholders for high-pressure coolant

The coolant is supplied to the cutting edge providing good chip control and long tool life



Chip control



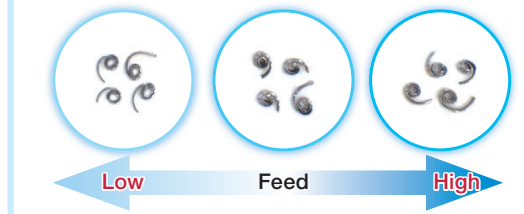
GROOVING AND PARTING



Carbon steel
(1045)

$V_c = 525 \text{ sfm}$
 $CDX = 0.354 \text{ in}$

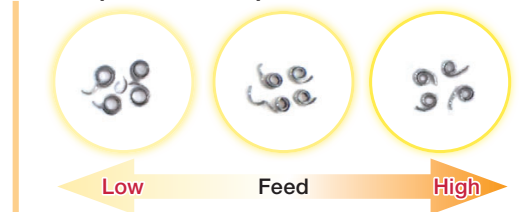
TCL38 (CW = 0.079")



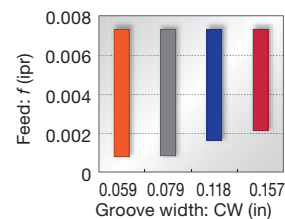
Stainless steel
(304SS)

$V_c = 394 \text{ sfm}$
 $CDX = 0.354 \text{ in}$

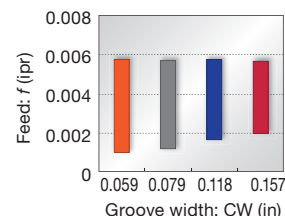
TCL38 (CW = 0.079")



Standard feed

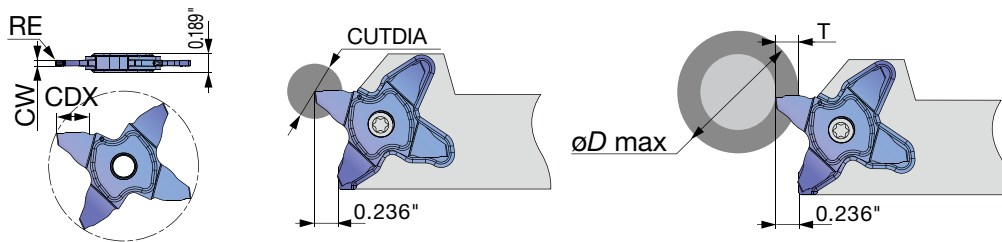


Standard feed



New

TCL38



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

★ : First choice

Designation	CW±0.02 (mm)	CW±0.001 (in)	RE (in)	Coated AH7025	CDX (in)	CUTDIA (in)	Relation of groove depth (T) and Max. diameter (øD max)					
							T ≤ 0.197"	T ≤ 0.236"	T ≤ 0.276"	T ≤ 0.315"	T ≤ 0.354"	T ≤ 0.394"
TCL38-150-020	1.5	0.059	0.008	●	0.354	0.709	∞	37.402	12.402	7.480	1.772	-
TCL38-200-020	2	0.079	0.008	●	0.354	0.709	∞	37.402	12.402	7.480	1.772	-
TCL38-300-020	3	0.118	0.008	●	0.394	0.787	∞	37.402	12.402	7.480	5.118	1.969
TCL38-400-030	4	0.157	0.012	●	0.394	0.787	∞	37.402	12.402	7.480	5.118	1.969

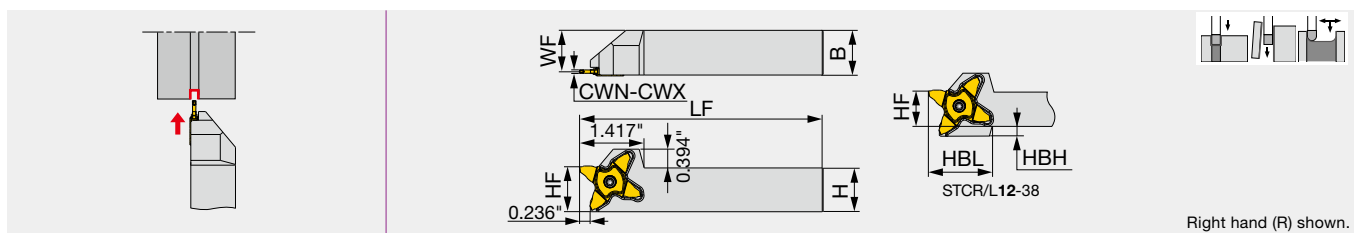
5 pieces per package

● : New

New

STCR/L-38

External grooving and parting toolholder



Right hand (R) shown.

Inch	CWN	CWX	H	B	LF	HF	WF	HBH	HBL	Insert	Torque*
STCR/L12-38	0.059	0.157	0.750	0.750	5.000	0.750	0.670	0.234	1.378	TCL38...	1.84
STCR/L16-38	0.059	0.157	1.000	1.000	5.500	1.000	0.920	-	-	TCL38...	1.84
STCR/L20-38	0.059	0.157	1.250	1.250	5.500	1.250	1.170	-	-	TCL38...	1.84

*Torque: Recommended clamping torque (lbf-ft)

SPARE PARTS

Designation	Screw	Wrench
STCR****-38	SR16-212-01397L	T-2010/5
STCL****-38	SR16-212-01397	T-2010/5

STANDARD CUTTING CONDITIONS

ISO	Workpiece materials	Grades	Cutting speed Vc (sfm)	Feed: f (ipr)
				Grooving, Parting TCL38
P	Carbon steel (1045, etc.)	AH7025	262 - 591	0.001 - 0.007
	Alloy steel (4140, etc.)	AH7025	164 - 591	0.001 - 0.007
M	Stainless steel (SUS304 / X5CrNi18-9, etc.)	AH7025	164 - 492	0.001 - 0.006
K	Grey cast iron (Class 25, etc.)	AH7025	164 - 591	0.001 - 0.006
	Ductile cast iron (60-40-18, etc.)	AH7025	164 - 394	0.001 - 0.006
S	Titanium alloys (Ti-6Al-4V, etc.)	AH7025	98 - 197	0.001 - 0.006
	Superalloys (Inconel718, etc.)	AH7025	66 - 164	0.001 - 0.006

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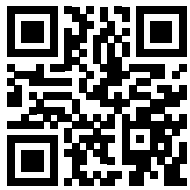
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