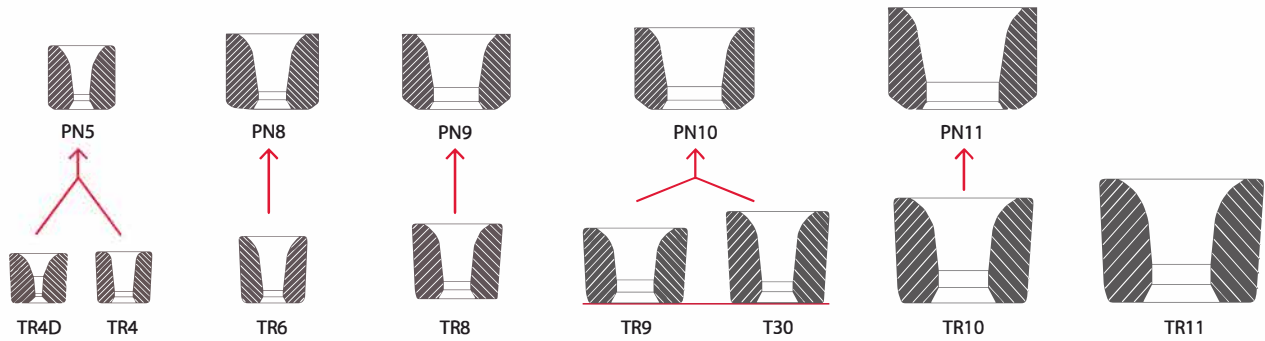


# CARBIDE INSERTS



Drawing insert standards			
Draw Insert Type	Standard Angles	Standard Size Range	Stock Increment
TR4D	9°	.0060 - .0249 .0250 - .0590	* .0005
TR4	9°	.0300 - .0795 .0800 - .1950	.0005 .0010
	12°	.0300 - .0795 .0800 - .2300	.0005 .001
	16°	.0700 - .1179 .1180 - .2300	* .001
TR6	8°	.1580 - .3340	.001
	12°	.1580 - .3500	.001
	16°	.1500 - .1849 .1850 - .3490	* .001
TR8	12°	.2100 - .5120	*
	16°	.1780 - .2950	*
	18°	.3500 - .5120	*
T30	10°	.1930 - .4920	*
	12°	.2560 - .6500	*
TR9	18°	.5000 - .6500	*
TR10	12°	.6500 - .8850	*
	18°	.6500 - .8850	*
TR11	18°	.8850 - 1.250	*

Pressure insert standards			
Pressure Insert Type	Standard Angles	Standard Size Range	Standard Increment
PN5	16°	.0300 - .0345	*
		.0350 - .0990	.0010
		.1000 - .1990	.0020
		.2000 - .2500	.0050
		.2510 - .2800	*
PN8	18°	.2800 - .4300	*
PN9	18°	.4350 - .6250	*
PN10	18°	.3000 - .7800	*
PN11	18°	.7850 - 1.145	*

Standard tolerance drawing inserts		
Size Range	Bearing Length	Internal Diameter
.0100 - .0199	20 - 50 %	+0.0000 / -.0002
.0200 - .0249	25 - 50 %	+0.0000 / -.0003
.0250 - .0299	25 - 50 %	+0.0000 / -.0004
.0300 - .0999	30 - 50 %	+0.0000 / -.0005
.1000 - .1969	30 - 50 %	+0.0000 / -.0010
.1970 - .2959	25 - 45 %	+0.0000 / -.0010
.2960 - .3939	20 - 40 %	+0.0000 / -.0010
.3940 - .4999	20 - 35 %	+0.0000 / -.0010
.5000 >	20 - 30 %	+0.0000 / -.0010

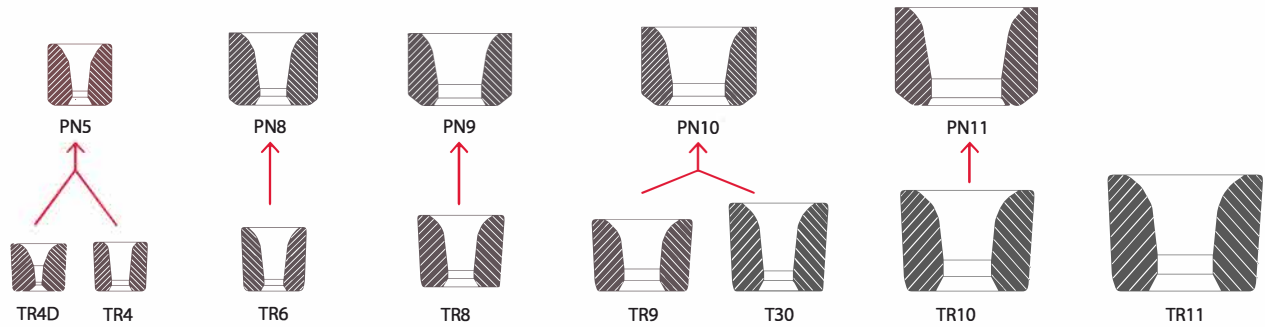
Insert geometries listed are standard.  
Stock increment sizes have faster lead-time.

Other diameters, approach angles, bearing lengths and tolerances available upon request.

\* Sizes made to order from available raw material.



# CARBIDE INSERTS



Drawing insert standards			
Draw Insert Type	Standard Angles	Standard Size Range	Stock Increment
TR4D	9°	0.15 - 0.64	*
		0.65 - 1.50	0.01
TR4	9°	0.75 - 1.99	0.01
		2.00 - 5.00	0.02
	12°	0.75 - 1.99	0.01
	12°	2.00 - 4.98	0.02
		5.00 - 5.85	0.05
TR6	16°	1.80 - 2.99	*
		3.00 - 5.85	0.05
	8°	4.00 - 8.45	0.05
TR8	12°	4.00 - 8.90	0.05
		16°	3.80 - 5.49
	16°	5.50 - 8.90	0.05
TR9	12°	5.30 - 13.00	*
		16°	4.50 - 7.50
	18°	6.00 - 13.00	*
T30	10°	4.90 - 12.50	*
	12°	6.50 - 16.50	*
TR10	12° / 18°	16.50 - 22.50	*
TR11	18°	22.50 - 32.00	*

Pressure insert standards			
Pressure Insert Type	Standard Angles	Standard Size Range	Standard Increment
PN5	16°	0.75 - 0.99	*
		1.00 - 2.54	0.02
		2.55 - 6.05	0.05
		6.06 - 7.50	*
PN8	18°	4.80 - 11.00	*
PN9	18°	7.25 - 16.00	*
PN10	18°	6.00 - 20.00	*
PN11	18°	18.40 - 29.00	*

Standard tolerance drawing inserts		
Size Range	Bearing Length	Internal Diameter
0.15 - 0.499	20 - 50 %	+ .002 / - .002
0.50 - 0.649	25 - 50 %	+ .003 / - .003
0.65 - 0.749	25 - 50 %	+ .000 / - .010
0.75 - 2.499	30 - 50 %	+ .000 / - .010
2.50 - 4.999	30 - 50 %	+ .010 / - .010
5.00 - 7.499	25 - 45 %	+ .010 / - .010
7.50 - 9.99	20 - 40 %	+ .010 / - .010
10.00 - 12.69	20 - 35 %	+ .010 / - .010
12.70 >	20 - 30 %	+ .010 / - .010

Insert geometries listed are standard.  
Stock increment sizes have faster lead-time.

Other diameters, approach angles, bearing lengths and tolerances available upon request.

\* Sizes made to order from available raw material.



# ITEM NUMBER EXPLANATION

Inserts	
T	T = Taper, R = Round
R	R = Round
4	4 = TR4, 6 = TR6, 8 = TR8, 9 = TR9, 10 = TR10, 30 = T30
-	Spacer
1	Approach Angle (Included angle in degrees)
2	
J	Carbide Material Grade
1	Internal Diameter (Inch measurements begin with a decimal .1050)
.	
0	
5	
0	
-	Casing Type (All non-cased inserts are coded with a dash "-")
3	Bearing Length as a percentage of internal diameter (1st two characters are the minimum tolerance and the second two characters are the maximum tolerance)
0	
5	
0	
5	Finish: S = Standard, A = High Polish/Blended, M = Medium Blend Profile, F = Full Blend Profile. CVD coated inserts, Y = Standard, X = Well Blended (see Drawings Below)
0	I.D. Tolerance (1st character is the plus specification, second is the minus specification, Increments are .001) (Sample shown is +.0000/ -.0005)
5	



## Straight Profile

Standard non-blended profile. Excellent for most ferrous wire drawing as an industry standard.



## Medium Profile

Slightly blended profile providing increased lubricant and material flow. Excellent solution for high-carbon, rubber reinforcement, and many more.



## Full Profile

Fully blended profile providing maximum lubricant and material flow. Excellent solution for galvanize, non-ferrous, and many more.