A4 Insert Identification System

Groove and Turn Inserts

1. Tooling System	2. Insert Type	3. Groove Width	4. Unit of Measurement for Grooving Width	5. Seat Size	6. Insert Tolerance	7. Corner Radius	8. Chipbreaker Type/ Edge Prep
A4	G	0405	M	04	U	02	GMN

1. Tooling System

A4 – Groove & Turn

2. Insert Type

G – square
R – full radius
C – cut-off

3. Groove Width

Expressed in 1/100 mm or .001 in.

4. Unit of Measurement for Grooving Width

M – metric
N – inch

5. Seat Size

Pocket Seat Size	Cutting Width (mm)
03	3,0 – 3,05
04	4,0 – 4,05
05	5,0 – 5,05
06	6,0 – 6,05
08	8,0 – 8,05
10	10,0 – 10,05

6. Insert Tolerance

P = precision ground grooving width tolerance: ±.001 in. (0,025 mm)

U = utility molded grooving width tolerance:

3,05-4,05: $\frac{+.006}{-0}$ in. $\frac{(+0,15\ mm)}{-0}$

5,05-10,05: $\frac{+.010}{-0}$ in. $\frac{(+0,25\ mm)}{-0}$

7. Corner Radius

metric	inch
01 = 0,1	0 = .004
02 = 0,2	05 = .008
04 = 0,4	1 = .016
08 = 0,8	2 = .032
12 = 1,2	3 = .047

full radius = 00

8. Chipbreaker Type/ Edge Prep

GMN = groove & turn medium machining stable cutting edge

GMP = groove & turn medium machining positive rake angle

B = flat top for special forms and applications

E = flat top, slight honed edge

Cut-Off Inserts

1. Tooling System	2. Insert Type	3. Cutting Width	4. Hand of Insert	5. Main Cutting Edge Lead Angle	6. Chipbreaker Type	7. Corner Radius
A4	C	0305	N	00	CF	02

1. Tooling System

A4 – Groove & Turn

2. Insert Type

C – cut-off

3. Cutting Width

expressed in 1/100 mm

4. Hand of Insert

R = right hand
L = left hand
N = neutral

5. Main Cutting Edge Lead Angle

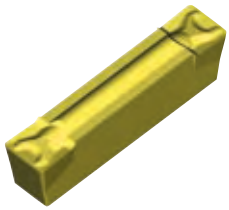
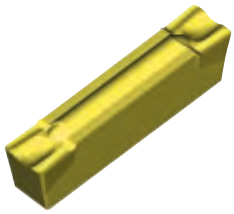
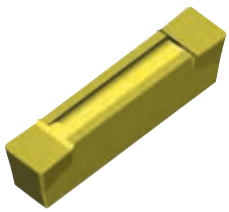
00 = neutral
06 = 6°
10 = 10°

6. Chipbreaker Type

CF cut-off fine positive rake

7. Corner Radius

metric	inch
02 = 0,2	.008

Insert Type & Chipbreaker Designation		Application Range	Metric Widths (mm)	Inch Widths (in.)	Steel	Stainless Steel	Cast Iron	Non-Ferrous Metals	High-Temp Alloys	Hardened Materials
molded: **A4G-U-GMN**		**Groove & Turn:** • stable cutting edge for higher feed rates • utility molded	3,05-10,05	–	●		●			●
precision ground: **A4G-P-GMN**		• stable, precision ground cutting edge • general grooving for specific inch widths • +/- .001 in. (0,025 mm) width tolerance	–	.125-.375	●	○	●	○	○	●
molded: **A4G-U-GMP**		**Groove & Turn:** • positive rake angle • reduced cutting force • small to medium feed rates • utility molded	3,05-10,05	–	○	●				
precision ground: **A4G-P-GMP**		• positive rake angle • precision ground cutting edge • +/- .001 in. (0,025 mm) width tolerance	3,0-10,00	–		○		●	●	
molded: **A4R-U-GMN**		**Groove & Turn:** • stable cutting edge for higher feed rates • utility molded	3,05-10,05	–	●		●			●
precision ground: **A4R-P-GMN**		• stable, precision ground cutting edge • general grooving for specific inch widths • +/- .001 in. (0,025 mm) width tolerance	–	.125-.375	●	○	●	○	○	●
precision ground: **A4R-P-GMP**		**Groove & Turn:** • positive rake angle • precision ground cutting edge • +/- .001 in. (0,025 mm) width tolerance	3,0-10,00	–		●		●	●	
molded: **A4G-U-B**		**Groove & Turn:** • for special profiles and for PCBN-tipped inserts (on request only) • secondary choice for cast iron and high-temp alloys	3,05-10,05	–			○		○	
precision ground: **A4G-P-E**		• diamond sheet-tipped tool for high performance non-ferrous machining	3,0-5,0	–				●		
molded: **A4C-CF**		**Cut-Off:** • high positive rake angle • sharp cutting edge • available in neutral lead angle, in 6° and 10° right- and left-hand styles	3,05-4,05	–	●	●	●	●	●	

● - primary application ○ - secondary application