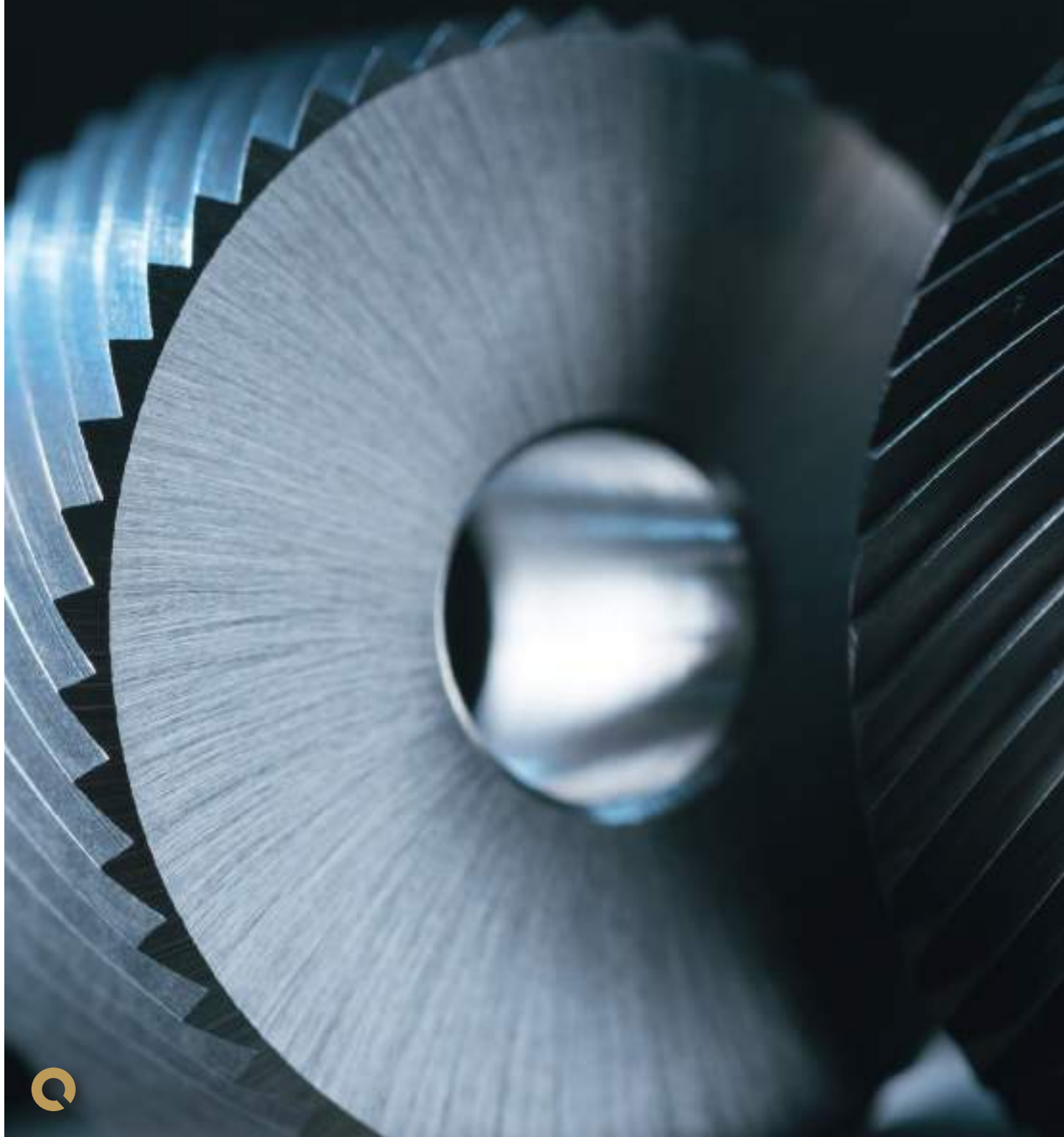


KNURLING WHEELS






CUTTING PROCESS

QUICK knurling wheels for cutting processes are manufactured of PM.

Surface treatment PVD coatings

For cutting processes we recommend different PVD coatings, since they can have a positive effect on the life of the knurling wheels. The following variants are available on request.

PVD coating	Colour sample	Suitable for
Q-Dur		Cold-work steel/hot-work steel/ high-speed steels/tempering steels (alternative)
Q-Blue		Stainless steels/high-speed steels/tempering steels/ titanium alloys
Q-Gold		Aluminium and brass alloys

NON-CUTTING PROCESS

QUICK knurling wheels for non-cutting processes are manufactured of PM.

Surface treatment TENIFER® salt-bath nitriding heat treatment

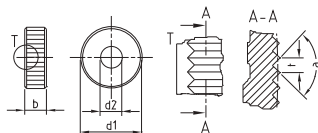
For non-cutting processes we recommend the TENIFER® method, since the salt-bath nitrocarburising process achieves high case hardness.

PROFILES AND PITCHES

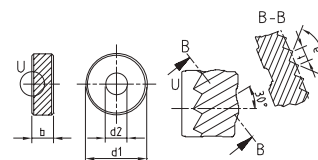
DIN 403 describes and specifies the knurling profile on the knurling wheel.

DIN 403 defines form knurling types AA, BL and BR. Knurling wheels that deviate from DIN 403 are considered special knurling tools and are custom manufactured by Hommel+Keller based on customer drawings.

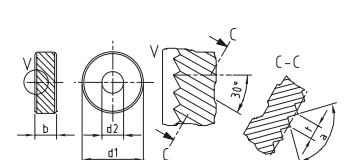
AA | Knurling wheel with axially parallel grooves



BL | Left-hand knurling wheel



BR | Right-hand knurling wheel



The knurling profile on the knurling wheel according to DIN 403 is based on the desired knurling profile on the workpiece (DIN 82) and the toolholder that is used. The knurling pitch prefers to the distance between tooth crests. The pitches = 0.5/0.6/0.8/1.0/1.2/1.6 are standard according to DIN 403. The Hommel+Keller product spectrum includes other pitches as well.

KNURLING WHEELS FOR CUTTING



Ground profile, no chamfer, profile angle 90° – PM

Ø	Dimensions [mm]		Profile	Pitches [mm]
	Width	Bore		
8.9	2.5	4	AA	⊙
			BL15°	□
			BR15°	□
			BL30°	⊙
			BR30°	⊙
14.5	3	5	AA	○
			BL15°	■
			BR15°	■
			BL30°	□
			BR30°	□
21.5	5	8	AA	●
			BL15°	●
			BR15°	●
			BL30°	●
			BR30°	●
32	8	14	AA	◆
			BL15°	◆
			BR15°	◆
42	12	18	AA	◆
			BL15°	◆
			BR15°	◆
			BL30°	❖
			BR30°	❖

STANDARD PITCHES

●	0.5 / 0.6 / 0.8 / 1.0 / 1.2 / 1.5 / 1.6 / 2.0
○	0.4 / 0.5 / 0.6 / 0.8 / 1.0 / 1.2
⊙	0.3 / 0.4 / 0.5 / 0.6 / 0.8 / 1.0
■	0.5 / 0.6 / 0.8 / 1.0 / 1.2
□	0.4 / 0.5 / 0.6 / 0.8 / 1.0
◆	1.5 / 2.0 / 2.5 / 3.0
❖	1.5 / 2.0 / 3.0

KNURLING WHEELS FOR FORMING



AA



BL30°



BR30°



BL45°



BR45°

Milled profile, 45° chamfer, profile angle 90° – PM

Ø	Dimensions [mm]		Profile	Pitches [mm]
	Width	Bore		
10	4	4	AA	⊙
			BL30°	⊙
			BR30°	⊙
			BL45°	□
			BR45°	□
15	4	4	AA	⊙
			BL30°	□
			BR30°	□
15	6	6A11	AA	⊙
			BL30°	⊙
			BR30°	⊙
			BL45°	⊙
			BR45°	⊙
20	8	6	AA	●
			BL30°	○
			BR30°	○
			BL45°	■
			BR45°	■
20	8	6A13	AA	○
25	8	6	AA	○

STANDARD PITCHES

●	0.3 / 0.4 / 0.5 / 0.6 / 0.8 / 1.0 / 1.2 / 1.5 / 2.0
○	0.5 / 0.6 / 0.8 / 1.0 / 1.2 / 1.5
⊙	0.3 / 0.4 / 0.5 / 0.6 / 0.8 / 1.0
■	0.6 / 0.8 / 1.0 / 1.2 / 1.5 / 2.0
□	0.5 / 0.6 / 0.8 / 1.0