

4 Ø D (MM)	57 L (MM)	3 Z
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MATERIAL COMPATIBILITY

●●● Excellent (3/3) ●●○ Good (2/3) ●○○ Possible (1/3) ○○○ Not recommended

Product material compatibility				
CATEGORY	MATERIAL	SPECIFICATION	GRP	28302A-4-6
Alloyed and non-alloyed steels Non-alloyed steels		Rm < 450 N/mm²	1a	●●● 3/3
		Rm 450–700 N/mm²	1b	●●● 3/3
		Rm 700–900 N/mm²	1c	●●● 3/3
		Rm > 1200 N/mm²	1d	●●● 3/3
Stainless steels Stainless steels		Rm < 650 N/mm²	2a	●●● 3/3
		Rm 650–950 N/mm²	2b	●●● 3/3
		Rm > 950 N/mm²	2c	●●● 3/3
Hardened steels Hardened steels		44–56 HRC	3a	●○○ 1/3
		57–67 HRC	3b	○○○ 0/3
Exotic materials Special alloys		< 32 HRC	4a	●●○ 2/3
		> 32 HRC	4b	●●○ 2/3
Graphite Industrial graphite			5	●●○ 2/3
Cast iron Grey / nodular cast iron		< 32 HRC	6a	●●● 3/3
		> 32 HRC	6b	●●● 3/3
Titanium Titanium alloys		Rm < 600 N/mm²	7a	●●● 3/3
		600 < Rm N/mm²	7b	●●● 3/3
Nickel alloys Inconel, Hastelloy		Rm < 1000 N/mm²	8a	●●● 3/3
		Rm > 1000 N/mm²	8b	●●● 3/3
Copper, brass, bronze Copper-based		Rm < 850 N/mm²	9a	●●● 3/3
		Rm > 850 N/mm²	9b	●●● 3/3
Aluminum Aluminum alloys		Si < 0.5%	10a	●●○ 2/3
		0.5% < Si < 5%	10b	●●○ 2/3
		Si > 5%	10c	●●○ 2/3
Synthetic materials Engineering plastics		Thermoplastic	11a	●●○ 2/3
		Thermoset	11b	●●○ 2/3
Composite materials Reinforced composites		Glass fiber / GFK	12a	●●○ 2/3
		Carbon fiber / KFK	12b	●●○ 2/3
Precious metals Gold, platinum, silver		Gold	13a	●●● 3/3
		Platinum	13b	●●○ 2/3

TECHNICAL DRAWING



DIMENSIONS

NOMINAL DIMENSIONS	
D (0 / -0.01)	4 mm
d (h5)	6 mm
L	57 mm
l1	11 mm
l3	–
d3	–
R	–
e	–
Z	3
Chamfer K	–
w° collision angle	4°

