



Reifenhäuser

REILOY

The Extrusioners

The experts in wear protection.

Our bimetallic barrel alloys provide optimal protection against wear and/or corrosion. Reiloy not only stands for unique wear protection; the variety of our injection molding and extrusion barrel applications is vast, too, so that all components meet your parameters. We are happy to advise you on the selection of a suitable bimetallic alloy, one that offers optimal wear protection for your production process.

Base materials

Material	R _m (in MPa)	R _{p0,2} bei 300°C (in Mpa)
Reiloy Standard	980	580
C60	800	360
NiCr22Mo9Nb	630	300

other materials on request

Alloy comparison matrix

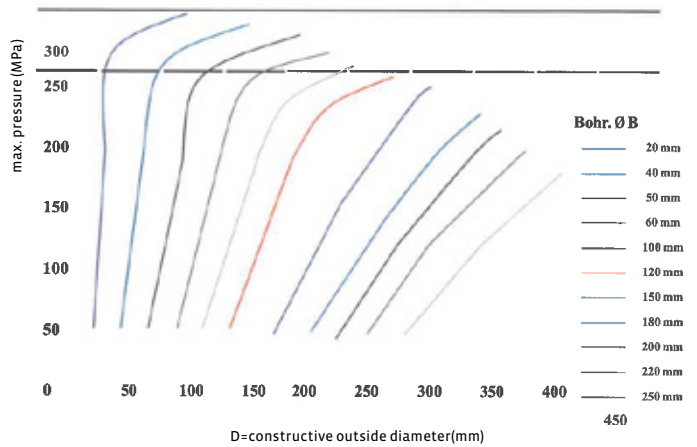
Product	Base element	Wear resistance	Corrosion resistance
R115	Ni	+	+++++
R121	Fe	+++	+++
R131	Fe	++++	++++
R215*	Ni-Co	+++++	+++++
R216	Ni	+++++	+++++

* only for barrel lengths > 3000 mm

Barrel material Reiloy Standard at 350° operating temperature

For very high pressures, in particular with injection molded barrels, we recommend the special Reiloy Standard Cr-V steel alloy.

The chromium vanadium alloy special steel achieves especially high strengths due to the carbon content of 0.5 percent. Additional micro-alloying elements improve the die elongation at break, notch impact strength and weldability. Thus this material also meets technically demanding customer specifications and allows for maximal inner pressures in barrels.



Maximum permissible pressure inside the barrel, dependent on the outside diameter D, for different bore diameters B



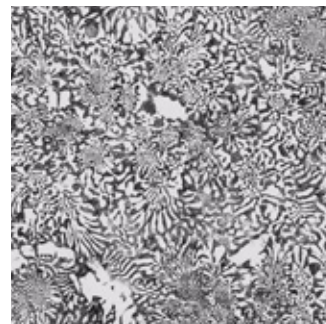
Iron-based armoring alloys

R121

Outstanding wear characteristics and good corrosion resistance

Suitable for processing plastics containing up to 30% glass fiber

Layer thickness	1,5 mm
Surface roughness RA	min. 0,2 – max. 0,8
Inside diameter	14 – 400 mm
Outside diameter	max. 600 mm
Length	max. 9000 mm
Design	Barrel blank; barrel semi-finished product; finished barrel
Hardness at room temp.	min. 65 HRC
Main alloy components	Cr, Ni, Mo, B
Microstructure descr.	Martensitic iron-based alloy with primary solidified Fe/Cr ₇ C ₃ , Fe/Cr ₂₃ C ₆ , Fe/Cr ₂ B hard phases as well as carbon-boride phases

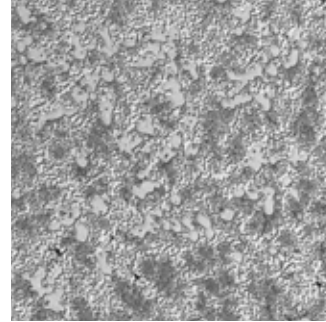


R131

Very high wear and corrosion protection, at improved ductility

Suitable for processing plastics containing up to 40% glass fiber

Layer thickness	1,5 mm
Surface roughness RA	min. 0,2 – max. 0,8
Inside diameter	14 – 90 mm
Outside diameter	max. 230 mm
Length	max. 3000 mm
Design	Barrel blank; barrel semi-finished product; finished barrel
Hardness at room temp.	min. 60 – 64 HRC
Main alloy components	Fe-Cr-V-B-Ni-C
Microstructure descr.	Martensitic iron-based alloy with primary solidified vanadium carbides, Fe/Cr ₇ C ₃ , Fe/Cr ₂₃ C ₆ , Fe/Cr ₂ B hard phases as well as carbon-boride phases

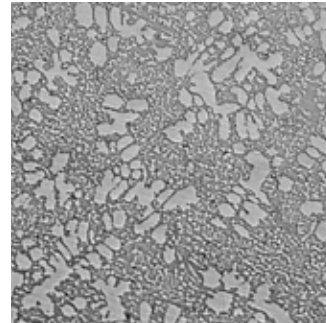


Nickel-based armoring alloys

R115

Maximum corrosion resistance

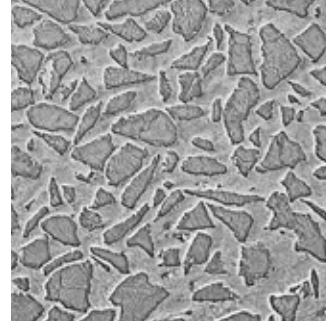
Layer thickness	1,5 mm
Surface roughness RA	min. 0,2 – max. 0,8
Inside diameter	18 – 105 mm
Outside diameter	max. 350 mm
Length	max. 3000 mm
Design	Barrel blank; barrel semi-finished product; finished barrel
Hardness at room temp.	min. 49 HRC; Di > 70 mm – min. 47 HRC
Main alloy components	Co, Cr, B
Microstructure descr.	Nickel-cobalt-base alloy with fine precipitations of primary solidified Ni ₂ B-nickel borides, eutectic solidified Cr ₇ C ₃ chromium carbides and Ni ₃ B nickel borides



R215

Maximum wear protection,
maximum corrosion resistance

Layer thickness	1,0 mm
Surface roughness RA	min. 0,3 – max. 0,8
Inside diameter	as of 105 mm
Outside diameter	as of 260 mm up to max. 600 mm
Length	as of 3000 mm up to max. 9000 mm
Design	Barrel blank; barrel semi-finished product; finished barrel
Hardness at room temp.	min. 59 HRC
Main alloy components	Co, W, Cr, B
Microstructure descr.	Dispersion hardening of a highly corrosion resistant Ni-Co matrix alloy with thermally stable tungsten carbides

**R216**

Maximum wear and corrosion
protection with good machinability

Layer thickness	min. 1,0 mm Di 15 mm – min. 0,75 mm Di 14 mm – min. 0,5 mm
Surface roughness RA	min. 0,3 – max. 0,8
Inside diameter	14 – 105 mm
Outside diameter	max. 260 mm
Length	max. 3000 mm
Design	Barrel blank; barrel semi-finished product; finished barrel
Hardness at room temp.	min. 59 HRC
Main alloy components	W, Cr, B
Microstructure descr.	Dispersion hardening of a highly corrosion resistant Ni matrix alloy with thermally stable micro tungsten carbides

