

Highly wear resistant barrels for extrusion and injection moulding



Centrifugal casting plant for large barrels of up to 8 tonnes

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Reiloy bimetallic barrels

The characteristic feature of bimetallic barrels is the extremely hard wearing bore layer. It is centrifugally casted into the barrel using proprietary centrifugal casting machines.

Heat-treatable steel produced according to Reiloy's specification is typically used as backing material. This applies in particular to barrels that are subjected to high mechanical loads, for example high internal pressure in injection moulding processes. Barrels used for the extrusion of plastic materials may also be produced of C60 high-grade steel.



Deep hole drilling machine

Backing materials for bimetallic barrels

Material	Material No.	Yield strength R _{p0.2} (300°C) (MPa)	Tensile strength R _m (RT) (MPa)	Elongation to fraction A(l ₀ =5d) (300°C) %
Reiloy-Standard	-	580	980	15
C60	1.0601	360	800	12

additional backing materials available on request

Centrifugal casting alloys for barrels

Reiloy material	Hardness (HRC)		Wear resistance	Corrosion resistance	thermal material expansion (25-400°C) (1/MK)	essential alloy elements (weight - %)					
	RT	300°C				Cr	Mo	V	Ni	B	C
Fe-Base											
R112	65-68	55-57	•••	-	12,8	1	-	-	4	2,1	3,6
R121	65-69	58-62	•••	•••	14,2	10	6	-	4	3,8	2
Ni-Base						Cr	Mo	Co	B	W	C
R115	52-56	49-53	•	•••••	13,1	7	2	35	3,8	-	-
R215	60-65	53-57	•••••	••••	11,5	4	1,5	15	2	40	1,9

Proprietary hard-material alloys based on iron and nickel, depending on their wear load, are used as armouring layers.

The barrel backing material is inductively heated up to the temperature at which the hard alloy powder exchanges into a liquid melt which is then casted into the barrel with high rotational speed. As a result, a melt metallurgical bond is created between layer and backing material.



Centrifugal casting

The universally suitable R121 armouring layer can be used for almost all plastic materials with up to 30% fillers, except for fluoropolymers. R215 offers the highest degree of wear protection for filler contents exceeding 30%, and an excellent corrosion protection.

Delivery dimensions

- Inside diameter: 14 - 400 mm
- Outside diameter: max. 650 mm
- Length: max. 9000 mm

Delivery form:

- Barrel blank: Bore finished-honed, outer diameter and length with manufactured over-dimensions (fig. 1)
- Semi-finished blank: Bore finished-honed, outer diameter and length turned to dimension (eventually with feed opening), with shrink-fit sleeve at the outflow, if necessary (fig.2)
- Finished barrel: Completely finished according to customer's drawing (fig. 3)

Reiloy offers single-source manufacture of its complete production range.

fig. 1



fig. 2



fig. 3



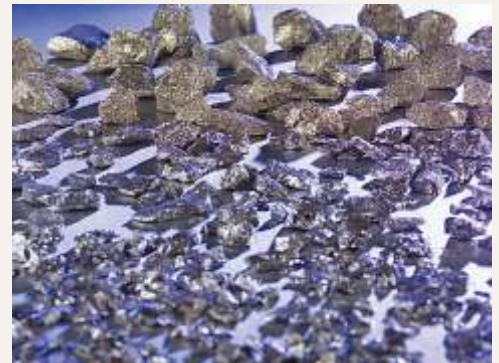
High-alloy metal powders for the manufacture of highly wear resistant screws and barrels



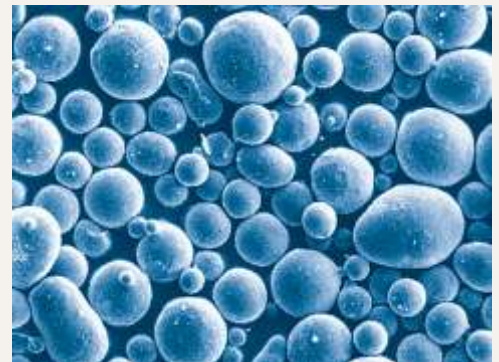
Gas atomisation plant for metal powder production



Primary material



Casting process



End products

Gas atomisation