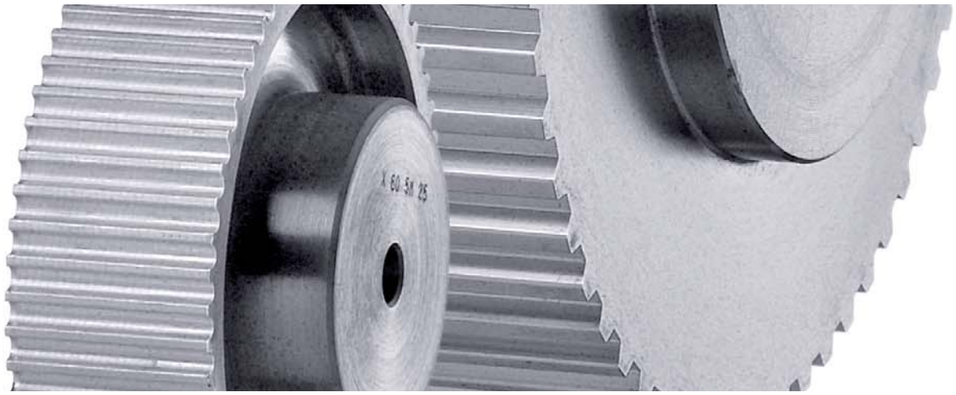
MATERIALS

Materials for synchronizing pulleys



Description	Material no.	Properties	Tensile strength (N/mm²)	Yield strength (N/mm²)
Non-ferrous metals (Al)				
AlCUMgPb AlCuMgPbMgMn	3.1645 2007	Good machinability	ca. 350	ca. 230
AlMgSi1 AlSiMgMn	3.2315 6082	Corrosion-resistant, salt-water resistant, good for anodizing, coating	ca. 280	ca. 230
AlZnMgCu1,5 AlZn5,5MgCu	3.4365 7075	Highest strength, good for anodizing, coating	ca. 510	ca. 440
AlSiMgBi	6026	Salt-water resistant, RoHs conformity, good for anodizing, coating	ca. 310	ca. 240
AlZn5,5MgCu	7075	Good for anodizing, coating		
Steel (St)				
C45	1.0503	Standard, any chemical processing possible	590 - 740	ca. 350
9 SMnPb28 (11Sn30) (bis 100 mm)	1.0718	Good machinability, hardenable to a limited extent	ca. 350	ca. 205
X10CrNiS18 9	1.4305	Rust-resistant, good machinability	500 - 700	
Gray cast iron				
GG25	EN-JL 1040	Corrosion resistant	250 - 350	165

Description	Trade name	Properties	Tensile strength (N/mm2)
Plastics (Thermoplaste)			
PA6 (polyamide)	Ultramid, Rilsan	High stiffness, good chem. resistance	50 - 84
PA12C (cast polyamide)	Lauramid, Hawamid	Wear resistant, hydrolysis resistant	60
POM (polyoxymethylene	Delrin, Hostaform	Good machinability	55 - 62

SURFACE TREATMENTS

Surface treatment / finishing of pulleys

Description	Layer thickness in µm	Tolerance in µm	Outside diameter correction in mm
Metal coatings			
Electro-galvanize	up to 80	+/- 10	Steel
Nickel-plating, chemcially	10-30	+/- 3	Al / Steel
Plating takes place in heated acid electrolytes. Good protection against corrosion only with an absolutely impenetrable coating having a thickness of min. 25 µm on iron. Good hard surface.			
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Chromating, blue			Steel
Subsequent treatment of electro-galvanized coating by dipping in solutions of sodium chromate and sulphuric acid 1/7 µm, e.g. when there is saltwater contact.			
Hard chromium plating	up to 100	+/- 5	Steel
Non-metal coatings			
Bronzing	1 - 2		Steel
Iron is dipped into heated sodium hydrate, alkaline or sulphate lye; afterwards, the product is repeatedly rubbed with oil or wax. Low corrosion resistance.			
Phosphatizing	5 - 12	+/- 3	Steel
Phosphate layers are created by dipping the workpiece into phosphoric acid solutions of heavy or alkali metals (see also bonderizing).			
Anodizing, neutral	10 -25		Al
An oxide layer is created by electric oxidation on Al, Mg, Zn or alloy.			
Hard anodizing	30 - 40	+/- 5	Al
Hard coating	<40 >40	+/- 5 +/- 10	