

Corroplast

C 0.05 Mn 1.30 S 0.15 Cr 12.50 Additions +

Steel properties

Corroplast is a new corrosion-resistant steel for plastic moulding, featuring extremely good machinability at a supplied hardness of approx. 320 HB. The reduced carbon content endows Corroplast with excellent welding properties.

Physical properties

Coefficient of thermal expansion

at °C	20 – 100	20 – 150	20 – 200	20 – 250	20 – 300	20 – 350	20 – 400	20 – 450	20 – 500
10⁻⁶ m/(m · K)	10.3	10.6	10.9	11.1	11.2	11.4	11.6	11.8	12.0

Precipitation hardened

Thermal conductivity

at °C	23	150	300	350	400	500
W/(m · K)	24.6	25.7	25.8	25.7	25.4	24.7

Precipitation hardened

Density

at °C	20
kg/dm³	7.7

Modulus of elasticity

at °C	20	150	350
MPa	214600	208600	198000

Applications

Base plates, mould bases and plastic moulds with standard requirements on polishability, as well as being resistant to condensation and cooling water.

Typical mechanical properties

in as-delivered condition

Heat treatment diameter in mm Ø	Yield stress in MPa R _{p0,2} min.	Tensile strength in MPa R _m	Elongation at fracture in % A min.	Reduction of area at fracture in % Z min.
170	890	1100	13	42

Machinability of X33CrS16 and Corroplast in % (hardness 325 HB)

Roughing	X33CrS16	100 %
	Corroplast	140 %
Finishing milling	X33CrS16	100 %
	Corroplast	135 %
Grinding	X33CrS16	100 %
	Corroplast	135 %
Drilling	X33CrS16	100 %
	Corroplast	150 %
Thread cutting	X33CrS16	100 %
	Corroplast	140 %