

**Chemical composition** Typical analysis in %

C	Mn	S	Cr	Additions
0.05	1.30	0.15	12.50	+

**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 $10^{-6} \text{ m}/(\text{m} \cdot \text{K})$	20 – 100 °C	20 – 200 °C	20 – 300 °C	20 – 400 °C	20 – 500 °C
		10.0	10.6	11.0	11.3
Thermal conductivity $\text{W}/(\text{m} \cdot \text{K})$	20 °C	150 °C	350 °C		
	21.8	22.5	23.8		
Density $\text{kg}/\text{dm}^3$	20 °C				
	7.7				
Modulus of elasticity $\text{MPa}$	20 °C	150 °C	350 °C		
	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**

Heat treatment diameter in mm $\varnothing$	Yield stress in MPa $R_{p0.2} \text{ min.}$	Tensile strength in MPa $R_m \text{ min.}$	Elongation at fracture in % $A \text{ min.}$	Reduction of area at fracture in % $Z \text{ min.}$
170	890	1100	13	42

**Machinability of X33CrS16 and CorroPlast® in % (hardness 325 HB)**