

TektoSal®400

Wear-resistant special structural steel

Material no. according to	1.8704
is equivalent to	20MnCr6-5
Tensile strength class	D

General information

TektoSal®400 is a wear-resistant, hot-rolled steel plate from coil. It is used for constructions with frictional abrasion like mining machines, shovel excavators, constructions for transporting bulk material and other components with wear resistance and additional requirements for welding and forming.

Chemical composition¹⁾ (in percent by weight)

	min. in %	max. in %
C		0.20
Si		0.50
Mn		1.60
P		0.015
S		0.005
Cr		1.60
Mo		0.60
Ni		1.20
Al	0.015	

1) Heat analysis



Available dimensions

Hot-rolled coil unpickled, mill edge as strip or sheet

Thickness in mm	Width in mm
5.00 – 12.00	1,000 – 1,500

Thicknesses greater than 12 mm on request.
Widths up to 2,000 mm on request.

Mechanical properties^{2,3)}

Hardness HB
340 – 440

Yield point R _e ⁴⁾ in MPa
850 – 1,050

Tensile strength R _m ⁴⁾ in MPa
1,100 – 1,250

2) The samples for the tensile test are taken transversal to the rolling direction unless the product width is opposed to this.

3) Mechanical properties are referring to plate thickness up to 12 mm.

4) These mechanical properties are typical values for this material.

Information about the inspection certificate

The value of the yield point and tensile strength is assessed per strip, but is not part of the inspection certificate 3.1. Only the HB-value is specified as a mechanical property.

TektoSal®400 can be used as a material for counter-blades of a cutting head as shown in the picture used in a tree felling machine. The combination of wear resistance, hardness and high strength allows the machine to fell trees with a trunk thickness of several decimeter.

Testing

One hardening test per coil.

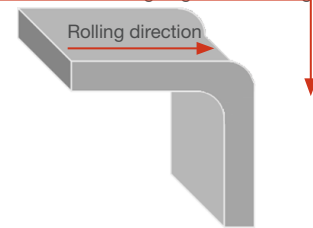
Hot-forming

The steel is suitable for hot-forming without any additional heat treatment.

Cold-forming

The steel is suitable for cold forming adhering to a minimal bending radius of three-fold sheet thickness. The matrix width for a bending radius of 90° should have more than ten to twelve times plate thickness.

“transverse”: Bending edge 90° to rolling direction



Milling

The cutting conditions for the milling process need to be selected suitable for the hardness of the steel.

Welding and flame-cutting

The steel is suitable for all current welding methods. Preheating is not necessary. Material with temperatures below +5°C should be preheated to room temperature before welding or flame-cutting.

In principle, indications of SEW 088 should be adhered to while welding.

The residual stress of the construction needs to be considered. The shown material properties are not reached at the welding seam.