

Welding instructions Bruxite™

Bruxite™

Areas of use

Bruxite™ wear and cutting steels are intended for applications where high wear resistance is required.

Material properties

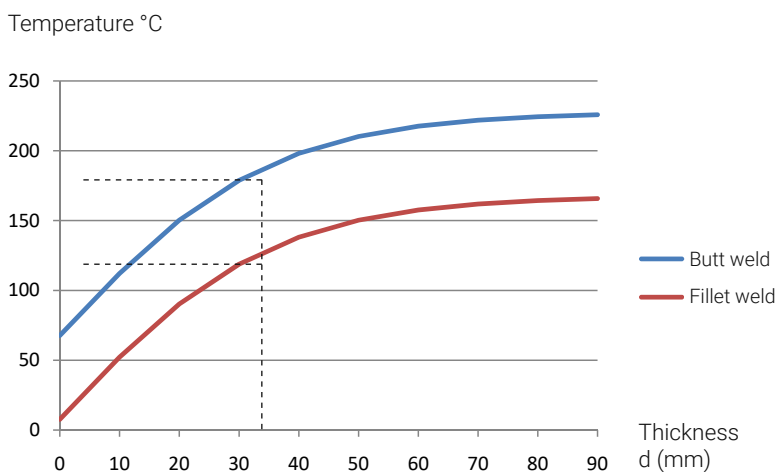
Bruxite™ is a hardened boron steel according to EN 10083-3. The chemical properties of this material, together with the manufacturing method, ensures good wear properties as well as excellent properties during welding (preheating min. 50 °C). NOTE: Avoid welding in areas that are exposed to fatigue loads unless the steel has been specially treated in advance.

Mechanical properties These values are intended as guidelines for materials 15 to 50 mm thick.	Stretch limit Rp0.2 N/mm ²	Break resistance Rm N/mm ²	Extension As in %	Impact strength	
	t °C	KV J			
	1200	1600	6	- 40	20
Hardness	Material thickness t ≤ 30 mm 500 +\/- 25 HB, t ≥ 35 mm 500 +\/- 40 HB				

Bruxite™, working temperature for different material thicknesses

In the table below you can read what temperature the material should be preheated to before welding. At the same time, it is the temperature the material should have between the strands in a multi-strand joint. Drawn example: 30 mm. wall thickness.

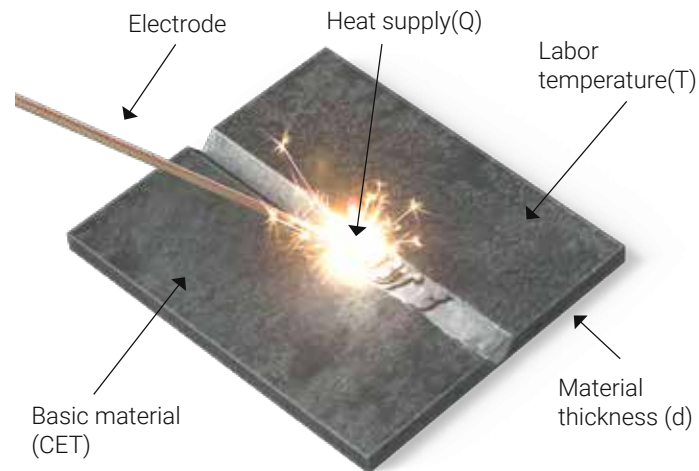
- Butt weld: 180 °C
- Fillet weld: 120 °C



The values of the table are calculated according to standard EN1011 method B.

- Weldability value CET = 0.43 applies to all Bruxite™.
- Heat supply Q = 1.2 kJ / mm. corresponds to normal manual welding, both MAG and MMA.
- Mechanical welding with significantly higher heat supply should be calculated separately.

Guidelines for welding



- ▶ Make sure that the material has suitable joints and that the gap is not wider than 3 mm.
- ▶ Make sure that the surfaces to be welded are clean and dry.
- ▶ Plan the different steps of the welding work and select electrodes before welding. (Disposable or repeated welding)
- ▶ Preheat the material according to the recommended welding instructions. When welding in an environment with high humidity, special measures must be taken.
- ▶ The working temperature should not exceed 225 °C because the material then start to anneal, which leads to deteriorating material properties.
- ▶ The working temperature must be measured 75 mm from the center of the weld.
- ▶ We recommend that you use temperature-marking crayons to be able to control the temperature.
- ▶ The electrodes should be stored according to the manufacturer's recommendations to prevent them from absorbing moisture. Any preheating must be done before puncturing the material.

Recommended materials for Bruxite™

Electrode for manual welding (welding pin, MMA).

OK 48.30, OK 48.00 (E7018), OK 74.78 (E9018-D1) or equivalent.

MAG welding (Gas metal arc welding)

OK Autorod 12.51, OK Autorod 12.50 (ER70S-6),

OK Autorod 13.13, OK Tuberod 14.13 (E70C-6M).

Argon gas with 16% CO₂ or 23% CO₂ is recommended as shielding gas.