



# Miilux® Abrasion Resistant Steel Centre

## The safe handling of hard plates

### Lifting:

Ensure that your lifting equipment is suitable for the handling of hard plates. Ordinary grippers, designed for engineering workshops, are only suitable for lifting plates which have a maximum hardness of 300 brinells. The hardness of Miilux® abrasion resistant steels is between 400 and 530 brinells. Hard plates will not be properly gripped by ordinary grippers and therefore risk coming loose during the lifting process. We recommend lifting hard plates with screw clamps, chains, lifting magnets or lifting lugs.

### Welding:

It must be noted that boron steels and hardened Miilux® abrasion resistant steels are sensitive to cracking during welding and, in practice, always require preheating (more detailed instructions are available from the Miilux® Abrasion Resistant Steels Manual and Miilux® Welding Recommendations). This is a critical stage when welding lifting lugs, for example. If preheating is omitted, the lug may become detached from the plate during the lifting process.

### Bending:

**In the boron state** (before hardening). Work hardening occurs in plates (B27S in particular) during bending and may crack suddenly. Special care must be taken when bending components made of boron steel, and bending must be carried out from the side of the machine, behind a safety mesh. Although the mechanical properties of boron steel are similar to those of S355, it behaves differently during the bending process.

**Hardened components** (all abrasion resistant steels) must be bent using the recommended bending radii. It is recommended to use bending tools equipped with rolls. The use of sharp-edged tools, in particular, must be avoided. Bending must be completed with one press. As with the bending of boron steel components, special care must be taken when bending components made of abrasion resistant steel grades, in addition to which bending must be carried out from the side of the machine, behind a safety mesh.

The risk of accidents can be decreased by following these instructions. However, special care must be taken whenever handling abrasion resistant steels.

### Miilux Ltd

Ruonankatu 1, FI-92100 Raahe  
Tel. +358 10 5856 000  
Fax +358 10 5856 381  
[www.miilux.fi](http://www.miilux.fi)