

## Toolox 40

### General Product Description

The pre-hardened, exceptionally clean engineering and tool steel

Toolox® 40 is a pre-hardened steel suitable for engineering components and mold applications. It possesses good dimensional stability after machining.

Toolox 40 features the same machinability as the conventional P20/W.Nr 1.2311 steel, despite its nearly 100 HBW higher nominal hardness, in combination with the renowned high dimensional stability of Toolox. This makes Toolox 40 your ideal choice in engineering components that require higher strength, or in molds and dies that demand higher wear resistance.

### Dimension Range

Toolox 40 is available in thicknesses between 6- 130 mm. Other dimensions can be available on request.

### Mechanical Properties

| Thickness<br>(mm) | Hardness <sup>1)</sup><br>(HBW) |
|-------------------|---------------------------------|
| 6- 130            | 360- 420                        |

<sup>1)</sup> Hardness is measured, according to EN ISO 6506-1, on a milled surface 0.5- 2 mm below the plate surface.

### Impact Properties

| Test temperature | Impact energy, Charpy-V, transverse direction <sup>2)</sup> |
|------------------|-------------------------------------------------------------|
| 20 °C            | 20 min J                                                    |

<sup>2)</sup> Impact testing according to EN 10 025, EN ISO 148 with a 2 mm striker.

### Ultrasonic testing

Ultrasonic inspection is carried out according to : EN 10 160 with extra demands according to specification SSAB V6.

### Tolerances

More details are given in SSAB's brochure 41-General Product Information Strenx, Hardox, Armox and Toolox-UK and also available on [www.toolox.com](http://www.toolox.com).

### Thickness

Tolerances according to SSAB's thickness guarantee AccuRollTech. AccuRollTech meets the requirements of EN 10 029 Class C but offers more narrow tolerances.

### Length and Width

Tolerances according to EN 10 029.

### Flatness

Flatness tolerances are according to SSAB's flatness tolerances, which are more restrictive than EN 10 029 Class N (steel type L).

### Surface Properties

Surface properties of Toolox 40 are according to EN 10 163-2 Class B, Subclass 3.

### Delivery Conditions

Quenched and Tempered at a minimum temperature of 590 °C.

On delivery from SSAB the plates meet the following specifications:

- free from mill scale
- not repair welded

Delivery requirements can be found in SSAB's brochure 41-General product information Strenx, Hardox, Armox and Toolox-UK or [www.toolox.com](http://www.toolox.com).

## Fabrication and Other Recommendations

### **Welding, bending and machining**

For information concerning welding and fabrication, see SSAB's brochures on [www.toolox.com](http://www.toolox.com) or consult Tech Support, [techsupport@ssab.com](mailto:techsupport@ssab.com).

Toolox 40 is not intended for further heat treatment. If Toolox 40 is heated above 590 °C after delivery from SSAB no guarantees for the properties of the steel are given.

Nitriding or surface coating may be carried out if the temperature is below 590 °C.

Appropriate health and safety precautions must be taken when welding, cutting, grinding or otherwise working on the product. Grinding, especially of primer coated plates, may produce dust with high particle concentration.

## Contact Information

[www.ssab.com/contact](http://www.ssab.com/contact)