Miilux® OY

MIILUX 600

General product description

Heavy performance wear-resistant steel which due to its unique hardness faces to applications in severe abrasive wear conditions. Miilux 600 has nominal hardness of 600 HBW and excels in very high wear resistance. It is still weldable.

Typical mechanical properties

Grade	Thickness (mm)	Hardness (HBW)	Yield strength $R_{p0,2}$ (MPa)
Miilux 600	6 - 20	570-650	1400

The hardness by Brinell scale in HBW is performed on the clean milled surface in depth of 0,5-2 mm in acc. with EN ISO 6506-1. Testing is done at every production charge.

Miilux steel wear plates are quenched through the whole cross section.

Impact energy

Grade	Thickness (mm)	Impact energy, -40°C (Charpy V)[1)]
Miilux 600	6 - 20	20 J

[1)] typical value

Chemical composition (heat analysis, max %)

Grade	C	Si	Mn	P	S	Cr	Ni	Mo	B
Miilux 600	0,44	0,80	0,60	0,015	0,003	0,80	3,50	0,50	0,004

Carbon equivalent CEV

Thickness (mm)	CEV max
6 - 20	0,75

CEV=C+Mn/6+(Cr+Mo+V)/5+(Ni+Cu)/15

Dimensional tolerances

Miilux hot rolled plates are produced in acc. with EN 10051 and EN 10029 Class A.

Plates marking

You can always find at the each of the Miilux plate:

- production No.
- grade
- dimensions in mm
- plate No.

Certification

High quality wear plates are delivered together with 3.1 certificate in acc. with EN 10204-3.1

Surface quality

Under requirements of EN 10163-2 Class A3. Any repair is not allowed.

Miilux® OY

Miilux Poland Sp. z o.o.
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MIILUX 600

Dimensions and delivery conditions

High quality Miilux plates are produced in thickness range of 6 - 20 mm. Maximal width and length are 2000 resp. 6000 mm. We supply Miilux also as ready to install wear parts and components which are produced in acc. to your drawing or task to you. We will implement individual wishes for marking, testing, packing and others into your order.
Miilux plates are delivered with edges cut by thermal cutting. The cutting is done just before the quenching of the plates.
Miilux plates are delivered in as-rolled condition in standard.

Heat treatment

Wear plates Miilux must not be exposed by any additional temperature influence resp. heat treatment. These plates achieve its properties by quenching and that´s why they loose its hardness resp. strength when operation temperature is above 200° C. This will result negatively on the abrasion resistance of the plate.

Mechanical machining

Miilux plates can be machined by tool steel and high-speed steel drilling tools (HSS) with a satisfactory service life if cutting speed and feed rate are correspondingly adjusted in acc. to recommendations.

Bending

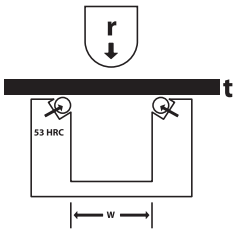
Miilux plates have to be cold formed with maximal possible punch radius value (see instructions below). Pay a special attention when choosing the proper machine as well the tools which must suit to high demands and needs of the high strength material processing.

Recommended cold brake pressing instructions

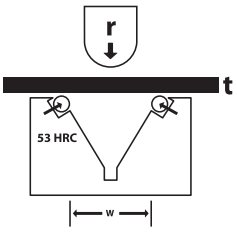
Grade	Thickness (mm)	Free bending < 90° r/t		Free bending < 90° w/t		"V" bending < 90° w/t
		Transverse*	Longitudinal*	Transverse*	Longitudinal*	
Miilux 600	6 - 20	~ 10,0	~ 12,0	~ 23,0	~ 27,0	-

- Bending should be done in only one working cycle.
- Slow punch speed is recommended.
- Use a die equipped with rollers (see fig.).

* Bending line v. rolling direction



Free bend



"V" bend

Welding and thermal cutting

Miilux 600 plates are weldable. The plate preheating is necessary in the full range of thicknesses. Miilux 600 is demanding for maximal welding energy resp. heat input. More you can find at the Miilux welding recommendations brochure.
The preheating temperature of the thermal cutting process is equal to the preheating temperature of the welding (see recommendations below).

Recommended preheating temperature

Combined plate thickness	20 mm	30 mm	40 mm	50 mm	60 mm	80 mm
Miilux 600	100°C					

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