

# OFL-L

## Plates with high surface quality for lift arms

### Specification DH-E43-B, edition April 2016<sup>1</sup>

Plates for lift arms comply with high requirements regarding surface quality. Lift arm plates are used for lift arms of earth moving equipment and other varnished and visible parts. For these special applications, Dillinger offers a surface quality called OFL-L.

### Designation and range of application

This specification applies to the following steel grades as defined by EN 10025 parts 2, 3 and 4:

- S275J2, S275M/ML, S275N
- S355J2, S355K2, S355M/ML, S355N
- S420M/ML
- S460M/ML

Other steel grades may be possible upon agreement prior to order.

OFL-L plates can be delivered in the following dimensions:

Plate thickness [mm]		Max. width [mm]	Max. length [m]
≥ 12 (0.5 in.) <sup>a</sup>	≤ 90 (3.5 in.) <sup>a</sup>	3 000 (118 in.) <sup>a</sup>	12 (470 in.) <sup>a</sup>

<sup>a</sup> The approximately converted values in brackets are for information only.

### Order example

Steel grade EN 10025-4 – S420M + DH-E43-B, OFL-L.

### General technical delivery requirements

Unless otherwise agreed, the general technical delivery requirements in accordance with EN 10021 apply.

<sup>1</sup> The current version of this specification can be also found on <http://www.dillinger.de>.

## Tolerances

Unless otherwise agreed, the following tolerances apply:

- thickness according to EN 10029, class A
- flatness according to EN 10029, table 5, class S, steel group L

## Surface quality

Permissible surface imperfections	
1. Cracks, shells and shell-like defects	Not allowed
2. Grooves and scratches	Permitted are a maximum of 5 grooves or scratches per plate side, provided that: depth $\leq 0.2$ mm (0.008 in.) <sup>a</sup> and width $\leq 5$ mm (0.2 in.) <sup>a</sup> and length $\leq 500$ mm (20 in.) <sup>a</sup>
3. Rolled-in scale	Not allowed
4. Isolated indentations	Imperfection permissible only if the surface of the imperfection is $\leq 50$ mm <sup>2</sup> (0.08 in. <sup>2</sup> ) <sup>a</sup> and its depth is $\leq 0.7$ mm (0.03 in.) <sup>a</sup> and the distance between two isolated imperfections is $\geq 500$ mm (20 in.) <sup>a</sup>
5. Clusters of indentations	Clusters of imperfections are only permissible if the surface of each imperfection is $\leq 50$ mm <sup>2</sup> (0.08 in. <sup>2</sup> ) <sup>a</sup> and its depth is $\leq 0.4$ mm (0.016 in.) <sup>a</sup> and the surface of the clusters of imperfections is $\leq 400$ cm <sup>2</sup> (0.62 in. <sup>2</sup> ) <sup>a</sup> and the number of imperfections per cluster $\leq 6$  The minimum permissible distance between two clusters of imperfections is 1 m (39 in.) <sup>a</sup> .
Surface repair procedures	
Imperfections that are not permissible shall be repaired. The thickness may locally fall under the lower limit of the tolerance as defined in EN 10163-2, class A. Grinding shall be carried out with special care to obtain smooth transitions.	
6. Depth of ground areas	Maximum depth of ground areas $\leq 0.7$ mm (0.03 in.) <sup>a</sup>
7. Isolated imperfections	Isolated imperfections with a depth $> 0.7$ mm (0.03 in.) <sup>a</sup> can be repaired upon agreement by welding and grinding.

<sup>a</sup> The approximately converted values in brackets are for information only.

## Identification of plates

Unless otherwise agreed the marking is carried out via steel stamps with at least the following information:

- steel grade (e. g. S420M)
- heat number
- number of mother plate and individual plate
- the manufacturer's symbol
- inspector's sign

## Stocking and transportation

The surface of OFL-L plates is very sensitive. Therefore, particular measures must be taken during transportation and stocking of these plates.

For plate stocking, Dillinger recommends the following measures:

- Protection against soil moisture by stocking on supports,
- Separation of the OFL-L plates with intermediate layers,
- Separation of OFL-L plates from other plates,
- If possible, stocking in the shop,
- If stocked outside, stocking with a slight inclination in order to avoid banking-up of the water,
- Protection against moisture by covering of the plates.

For the transportation of the OFL-L plates, we recommend to order closed wagons / lorries or at least a coverage of the plates with tarpaulins.

Please recognize that closed wagons are possible up to a plate width equal to 2 560 mm (101 in.)<sup>2</sup> and closed lorries are possible up to a plate width equal to 2 200 mm (87 in.)<sup>2</sup>. A coverage with tarpaulins is possible on wagons up to a plate width equal to 3 090 mm (122 in.)<sup>2</sup> and on lorries up to a plate width equal to 3 000 mm (118 in.)<sup>2</sup>. Because of possible splash water, a coverage cannot always prevent corrosion of the plate surface.

## General Note

If special requirements, which are not covered in this material specification, are to be met by the steel due to its intended use or processing, these requirements are to be agreed before placing the order.

The information in this specification is a product description. This specification is updated at irregular intervals.

The current version is relevant. The latest version is available from the mill or as download at

[www.dillinger.de](http://www.dillinger.de).

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<sup>2</sup> The approximately converted values in brackets are for information only.

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