



DILLINGER HÜTTE GTS

AISI 4140 – AISI 4142mod.

CR MO-ALLOYED VACUUM DEGASSED STEELS

Specification DH-E26-E
Edition November 2006

AISI 4140 and AISI 4142mod. are vacuum degassed fine grained steels which are particularly used by the customers for heavy machinery applications.

Product description

Designation and range of application

AISI 4140 and AISI 4142mod. are available as plate with sheared or flame cut edges in the following dimensions:

Thickness	> 20 ≤ 130 mm	> ¾ ≤ 5 in	> 130 ≤ 285 mm	> 5 ≤ 11¼ in
Width ¹⁾	≥ 1000 ≤ 3000 mm	≥ 40 ≤ 118 in	≥ 1000 ≤ 2050 mm	≥ 40 ≤ 80½ in
Length	≥ 4500 ≤ 6000 mm	≥ 177½ ≤ 236 in	≥ 4000 ≤ 6000 mm	≥ 157½ ≤ 236 in

¹⁾ Widths < 1250 mm (49 in) have to be ordered with an even number of plates
Other dimensions available upon request.

Chemical composition

For the ladle analysis the following limiting values in % are applicable

	C	Si	Mn	P	S	Cr	Mo	V
AISI 4140	0.36 - 0.44	0.15 - 0.35	0.70 - 1.10	≤ 0.035	≤ 0.040	0.80 - 1.15	0.15 - 0.25	—
AISI 4142mod.	0.38 - 0.46	0.15 - 0.40	0.70 - 1.70	≤ 0.035	≤ 0.035	0.75 - 1.20	0.15 - 0.30	¹⁾

¹⁾ alloyed depending on dimensions

Delivery condition and hardness

Delivery condition	Thicknesses		Hardness HB	
			AISI 4140	AISI 4142mod.
annealed	all		≤ 240	≤ 250
normalized	≤ 38 mm	≤ 1½ in	≤ 350	
	> 38 ≤ 76 mm	> 1½ ≤ 3 in	≤ 300	
	> 76 mm	> 3 in	≤ 275	
normalized + tempered	all			260 - 310

The general delivery conditions are normalized for AISI 4140 and normalized + tempered for AISI 4142mod. Delivery in the annealed condition has to be agreed upon before placing the order.

AISI 4140 – AISI 4142 mod.

Testing

- Heat analysis
- Dimension control
- Surface inspection
- Hardness

The hardness (HB) is tested on surface of one rolled mother plate for each thickness and heat.

Unless otherwise agreed, the results are documented in an inspection certificate 3.1 in accordance with EN 10204.

Identification of plates

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

- steel grade (AISI 4140 – AISI 4142 mod.)
- heat number
- number of mother plate and individual plate
- the manufacturer's symbol
- inspector's sign

General technical delivery requirements

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

Tolerances

Unless otherwise agreed, tolerances are in accordance with ASTM A 6 with the following restrictions:

plate thickness:	in accordance with ASTM A 6			
plate width:	$\geq 1000 \text{ mm} \leq 1500 \text{ mm}$	$\pm 25 \text{ mm}$	$\geq 40 \leq 59 \text{ in}$	$\pm 1 \text{ in}$
	$> 1500 \text{ mm} \leq 2050 \text{ mm}$	$\pm 40 \text{ mm}$	$> 59 \leq 80\frac{1}{2} \text{ in}$	$\pm 1\frac{1}{2} \text{ in}$
	$> 2050 \text{ mm}$	$\pm 50 \text{ mm}$	$> 80\frac{1}{2} \text{ in}$	$\pm 2 \text{ in}$
plate length:		$\pm 1000 \text{ mm}$		$\pm 40 \text{ in}$
flatness:	in accordance with ASTM A6			

Unless otherwise agreed, short lengths $\geq 2 \text{ m}$ (79 in) are part of the delivery.

Surface quality

Unless otherwise agreed, the specifications will be in accordance with EN 10163-2 class A, subclass 3. Shot blasting of upper and lower surface of the plate and shop priming are possible on request.

Options

Option 1

Ultrasonic testing: Ultrasonic testing in accordance with ASTM A578, Level B.

Option 2

Tolerances: Flatness 3 mm/m ($\frac{1}{8} \text{ in}/40 \text{ in}$) according to EN 10029.

General note

If special requirements, which are not listed in this 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 if necessary. The latest version is available from the mill or as download at www.dillinger.de.

Sales organisations:

Germany

Vertriebsgesellschaft
Dillinger Hütte GTS
Postfach 104927
D-70043 Stuttgart
Tel: +49 7 11 61 46-300
Fax: +49 7 11 61 46-221

France

DILLING-GTS Ventes
5, rue Luigi Cherubini
F-93212 la Plaine Saint Denis Cédex
Tel: +33 1 71 92 16 74
Fax: +33 1 71 92 17 98

For your local representative please
contact our coordination office in
Dillingen

Tel: +49 68 31 47 23 85
Fax: +49 68 31 47 99 24 72

AG der Dillinger Hüttenwerke
Postfach 1580
D-66748 Dillingen/Saar

e-mail: info@dillinger.biz
<http://www.dillinger.de>

Tel: +49 68 31 47-34 54
Fax: +49 68 31 47-99 20 25