

Data sheet: B4.1

Cold Rolled Structural Steel Sheet with improved formability

General description

Cold Rolled structural steel may be welded using any of the standard arc or resistance welding processes, usually without special precautions.

It is produced in different grades of strength levels intended primarily for the automotive industry in applications such as body panels, bumpers, interior brackets, door panels and seat components, where severe forming is carried out on higher strength steel sheet.

All the steel grades can readily be painted. Refer to the paint manufacturers' prescribed methods for pre-treatment and application.

Chemical composition

Table 1: Chemical composition specification (ladle analysis, percent)

Grade	C max	Mn max	P max	S max	Si max	Al min	Nb max	Ti max
JIS G3135 SPFC 340	0,08	0,6	0,08	0,03	0,05	0,02	-	-
JIS G3135 SPFC 440	0,18	1,5	0,08	0,03	0,3	0,02	-	-
EN 10268 HC 220P	0,07	0,7	0,08	0,025	0,5	0,015		
EN 10268 HC 260LA	0,10	0,6	0,025	0,025	0,5	0,015		0,15
EN 10268 HC 340LA	0,10	1,1	0,025	0,025	0,5	0,015	0,09	0,15
EN 10268 HC 420LA	0,10	1,6	0,025	0,025	0,5	0,015	0,09	0,15

For further information, contact:

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<https://www.arcelormittalsa.com/Products.aspx>

Care has been taken to ensure that the information in this data sheet is accurate. ArcelorMittal South Africa Limited does not, however, assume responsibility for any inaccuracies or misinterpretations of this data. We are continuously engaged in product development and revised data sheets will be issued from time to time. Please ensure that you have the most recent issue. **Effective date: March 2019**

Mechanical properties

Table 2: Mechanical properties

Grade	Yield strength (MPa)	Tensile strength (MPa)	Minimum elongation (%)	Mandrel diameter for 180° bend test for strip thickness t
* JIS G3135 SPFC 340	180 - 245	340 min	34	$0t$
* JIS G3135 SPFC 440	265 - 310	440 min	26	$0t$
EN 10268 HC 220P	220 - 270	320 - 400	32	$0t$
EN 10268 HC 260LA	260 - 350	350 - 460	26	$0t$
EN 10268 HC 340LA	340 - 420	410 - 530	21	$0t$
EN 10268 HC 420LA	420 - 520	470 - 590	17	-

Notes:

1. The tensile test is carried out as described in EN 10002 Part 1 using type 2 specimens (initial gauge length $L_0 = 80\text{mm}$), except for (*). Yield strength is determined by the 0,2% offset method
2. The tensile test for (*) is carried out as described in JIS Z 2241 using No.5 test piece of JIS Z 2201 (initial gauge length $L_0 = 50\text{mm}$). Yield strength is determined by the 0,5% offset method. The test pieces are taken at right angles to the direction of rolling

Surface texture

The material may be supplied in standard surface texture with 'light matt', 'normal' or 'matt' surface textures as set out in the data sheet: Cold Rolled Products (file reference B1).

Available Dimensions

Refer to Price List 131

Table 3: Available dimensions

Thickness t (mm)	Width (mm)
$0,40 \leq t < 0,50$	800 - 1250
$0,50 \leq t < 0,65$	800 - 1300
$0,65 \leq t < 0,70$	800 - 1350
$0,70 \leq t \leq 1,60$	800 - 1600
$1,60 < t \leq 2,00$	800 - 1500

Notes:

1. Thicknesses and Widths are available in increments in accordance with Price List 131. Width/thickness ratio limitations apply.
2. Within the ranges shown in the above table, certain specific sizes are Standard Items (refer to Price List 131). Standard Items are preferentially priced and are available in smaller quantities than non-standard items.
3. Subject to width/thickness ratio limitations, not full range available in all specifications.

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Dimensional tolerances

Tolerances on shape and dimensions are given in Data Sheet: Cold Rolled Product Tolerances (file reference B1.1).

Coil inside diameter

The standard inside diameter is 508mm (610mm on enquiry).

Certification

Test and analysis certificates are supplied.

Supply conditions

Cold Rolled structural steel sheet is supplied in terms of Price List 131 and ArcelorMittal South Africa's General Conditions of Sale.

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