

## Data Sheet: A 1.5

# Hot strip mill products

## Steel Specifications for the Domestic Market

### General description

This data sheet describes the generally used and readily available steel specifications produced for the domestic market on the hot strip mill at ArcelorMittal South Africa, Vanderbijlpark. Certain dimensional and steel specification ranges of the hot strip mill overlap with those of the plate mill. Reference should be made to the relevant data sheets before specifying dimensions and steel specifications:

- Hot Strip Mill Product Dimensions (file reference A1.1)
- Plate Mill Product Dimensions (file reference A1.3)
- Plate Mill Product Specifications (file reference A1.6)

Table 1. Commercial steel specifications

Specification	Thickness (mm)	Data sheet file reference
Commercial Quality <sup>1</sup>	1,2 - 13,0	A2.1 & A1.7
SAE <sup>1</sup> 1006	1,2 - 13,0	A2.1 & A1.7
SAE <sup>1</sup> 1008	1,2 - 13,0	A2.1 & A1.7
SAE <sup>1</sup> 1010	1,6 - 13,0	A2.1
SAE <sup>1</sup> 1012	1,6 - 13,0	A2.1
SAE <sup>1</sup> 1018	1,6 - 13,0	A2.1

Notes:

1. Analysis specifications only. No mechanical properties are specified for these steels.

Table 2. Drawing and forming steel specifications

Specification	Thickness (mm)	Yield strength (MPa)	Maximum tensile strength (MPa)	Data sheet reference
En 10111 DD14	2,0 - 10,0	170 - 290	380	A4.1
En 10111 DD13	2,0 - 10,0	170 - 330	400	A4.1
En 10111 DD12	2,0 - 10,0	170 - 320	420	A4.1
En 10111 DD11	1,6 - 10,0	170 - 340	440	A4.1

For further information, contact:

ArcelorMittal South Africa Limited, PO Box 2, Vanderbijlpark 1900. Toll free number 0800 005043

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Table 3. Specifications for structural steel with improved formability

Specification	Thickness (mm)	Yield strength (MPa)	Tensile strength (MPa)	Data sheet reference
SUPRAFORM <sup>®</sup> HR 190	2,0 - 10,0	190 - 270	290 min	A4.2
SUPRAFORM <sup>®</sup> HR 220	2,0 - 10,0	220 - 300	320 min	A4.2
SUPRAFORM <sup>®</sup> HR 250	2,0 - 10,0	250 - 330	370 min	A4.2
SUPRAFORM <sup>®</sup> HR 290(S ,010)	2,0 - 4,0	290 - 390	440 min	A4.2
SUPRAFORM <sup>®</sup> TM 340 <sup>1</sup>	2,0 - 10,0	340 - 420	400 min	A4.3
SUPRAFORM <sup>®</sup> TM 380 <sup>1</sup>	2,0 - 10,0	380 - 460	450 min	A4.3
SUPRAFORM <sup>®</sup> TM 420 <sup>1</sup>	2,0 - 10,0	420 - 500	490 min	A4.3
SUPRAFORM <sup>®</sup> TM 460 <sup>1</sup>	2,0 - 10,0	460 - 560	530 min	A4.3
SUPRAFORM <sup>®</sup> TM 500 <sup>1</sup>	2,5 - 5,0	500 - 600	560 min	A4.3
SUPRAFORM <sup>®</sup> 315MC/EN10149-2 S315MC	2,0 - 10,0	315 min	390 - 510	A4.4
SUPRAFORM <sup>®</sup> 355MC/EN10149-2 S355MC	2,0 - 12,0	355 min	430 - 550	A4.4
SUPRAFORM <sup>®</sup> 420MC/EN10149-2 S420MC	2,3 - 8,0	420 min	480 - 620	A4.4
SUPRAFORM <sup>®</sup> 550MC/EN10149-2 S550MC	2,5 - 8,0	550 min	600 - 760	A4.4

Note:

1. Replaced by Supraform<sup>®</sup> MC series.

Table 4. Structural steel specifications

Specification	Thickness (mm)	Minimum yield strength (MPa)	Tensile strength (MPa)	Data sheet reference
SANS 1350 (Si 0,04)	1,6 - 13,0	310	445 min	-
EN 10025-2 S235 JR	1,6 - 16,0	235	340 - 470	A3.4
EN 10025-2 S275 JR	1,6 - 13,0	275	410 - 560	A3.4
EN 10025-2 S355 JR	2,0 - 10,0	355	490 - 630	A3.4

Table 5. Pipe and tube steel specifications

Specification	Thickness (mm)	Minimum yield strength (MPa)	Tensile strength (MPa)	Data sheet reference
API 5L L290/X42 PSL1	2,0 - 13,0	290	415 min.	A8.1
API 5L L290/X42 PSL2 <sup>1</sup>	1,6 - 13,0	290	415 - 760	A8.1
API 5L L360/X52 PSL1	2,0 - 10,0	360	455 min.	A8.1
API 5L L360/X52 PSL2 <sup>1</sup>	2,0 - 10,0	360	460 - 760	A8.1
API 5L L390/X56 PSL1 <sup>1</sup>	2,0 - 10,0	390	490 min.	A8.1
API 5L L415/X60 PSL1	2,0 - 10,0	415	520 min.	A8.1
API 5L L415/X60 PSL2 <sup>1</sup>	2,0 - 10,0	415	520 - 760	A8.1
API 5L L450/X65 PSL1	2,0 - 10,0	450	535	A8.1
API 5L L450/X65 PSL2 <sup>1</sup>	2,0 - 10,0	450	535 - 760	A8.1
SAE 1008 (Si,03)	1,5 - 13,0	-	-	A8.2
EN 10219-1 S275JOH (S275 TUBE)	1,6 - 8,0	275 - 375	415 - 530	A8.2
EN 10219-1 S355MH (S355 TUBE)	2,0 - 10,0	355 - 495	450 - 570	A8.2

Note:

1. Available on enquiry.

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Table 6. Pressure vessel steel specifications

Specification	Thickness (mm)	Minimum yield strength (MPa)	Tensile strength (MPa)	Data sheet reference
ASTM A285 GR C	1,6 - 13,0	205	380 - 515	-
ASTM A516 GR 70 (COILS)	2,0 - 4,5	205	380 - 515	-
EN10028-2 P265 GH+AR	2,0 - 9,5	265	410 - 530	A6.4
EN10028-2 P355 GH+AR	3,5 - 10,0	355	510 - 650	A6.4
EN10028-5 P355M	3,2 - 10,0	355	450 - 610	-

Table 7. Liquid petroleum gas cylinder steel specification<sup>1</sup>

Specification	Thickness (mm)	Minimum yield strength (MPa)	Tensile strength (MPa)	Data sheet reference
LPG 275	2,0 - 6,0	275	400 - 490	A7.2
EN10120 P265NB	2,0 - 5,0	265	410 - 500	-

Note:

1. Test pieces are normalised. The steel is supplied as rolled.
2. LPG 275 is replaced by EN10120 P265NB

Table 8. Atmospheric corrosion resistant steel specifications

Specification	Thickness (mm)	Minimum yield strength (MPa)	Tensile strength (MPa)	Data sheet reference
EN 10025-5-S355J0WP+AR	2,5 - 6,0	355	510 - 680	-

Note:

1. EN 10025-5-S355J0WP+AR replaces Corten A.

Table 9. High carbon steel specifications<sup>1,2</sup>

Specification	Thickness (mm)	Data sheet reference
22MnB5 AMSA HR	2,0 - 6,0	A2.2
WEARPLATE 200 <sup>3</sup>	2,0 - 6,0	A2.2

Notes:

1. Analysis specifications only. No mechanical properties are specified for these steels.
2. Availability on enquiry.
3. Typical Brinell hardness is 200 BHN.

Table 11. VASTRAP<sup>®</sup> floor plate steel specification

Specification	Thickness (mm)	Data sheet reference
Commercial Quality (VASTRAP <sup>®</sup> )	3,0 - 8,0	A2.3

## Supply conditions

All material described in this data sheet is supplied in terms of Price Lists 115,120,121 and ArcelorMittal South Africa's General Conditions of Sale.

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