

Data sheet: EG 2

Electro-Galvanised Steel Sheet for Drawing and Forming EN 10152 DC01 - DC06 +ZE

General description

Electro-galvanised steel sheet for drawing and forming applications is produced in a range of grades meeting specifications as listed in the tables below. The most suitable specification can be selected, depending on the intended end-use and severity of fabrication.

All drawing and forming specifications may be welded by most standard welding processes.

All electro-galvanised drawing and forming steels are eminently suitable for painting. Refer to the paint manufacturers' prescribed methods for pre-treatment and application.

Chemical composition

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

Specification	C max	Mn max	P max	S max	Si max	Al Min
EN 10152 DC06 +ZE	0,02	0,25	0,020	0,020	0,03	0.010
EN 10152 DC05 +ZE	0,06	0,35	0,020	0,020	0,020	0.010
EN 10152 DC04 +ZE	0,08	0,40	0,025	0,025	0.025	0.020
EN 10152 DC01 +ZE	0,12	0,60	0,045	0,045	0.030	0,020

For further information, contact:

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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: Aug 2010**

Mechanical properties

Table 2. Mechanical properties (4) in the skin passed condition

Specification	Max Yield strength ¹ (MPa)	Tensile strength (MPa)	Minimum elongation ² (%)	Bar r ³	Bar n ³	r ₉₀ ³	n ₉₀ ³
EN 10152 DC06 +ZE	180	270 - 350	38	1,8 min	0,20 min	-	-
EN 10152 DC05 +ZE	180	270 - 350	38	-	-	1,9 min	0,19 min
EN 10152 DC04 +ZE	210	270 - 350	38	-	-	1,6 min	0,16 min
EN 10152 DC01 +ZE	280	270 - 410	28	-	-	-	-

Notes:

1. When the thickness t is $0.5\text{mm} < t \leq 0.7\text{mm}$ the values for the yield strength is increased by 20 MPa. For thickness $t \leq 0.5\text{mm}$ the value is increased by 40 MPa.
2. When the thickness t is $0.5\text{mm} < t \leq 0.7\text{mm}$ the minimum value for the elongation is reduced by 2 percentage points. For a thickness $t \leq 0.5\text{mm}$ the minimum value is reduced by 4 percentage points.
3. The values of r_{90} , n_{90} , Bar r and Bar n only apply to thicknesses $0.6\text{mm} \leq t < 1.2\text{mm}$. The Bar r values and Bar n values for thicknesses $t \geq 1.2\text{mm}$ are available on enquiry.
4. For design purposes the lower limit of yield strength for DC04, DC05 and DC01 may be assumed to be 140 MPa, and for DC06 120 MPa.
5. The tensile test is carried out as described in EN 10002 Part 1 using type 2 specimens (initial gauge length $L_0 = 80\text{mm}$). Yield strength is determined by the 0,2% offset method. The test pieces are taken perpendicular to the direction of rolling.

Strain ageing

DC06, DC05 and DC04 are stabilised and therefore guaranteed to be strain ageing resistant for a period of six months. No deterioration in mechanical properties or ductility, due to strain ageing, will take place during this period. The upper limit yield stress of 280 Mpa for DC01 is valid for 8 days from the time of despatch.

Temper rolling

The material is supplied in the temper rolled (skin passed) condition.

Surface texture

All the material may be supplied in standard surface finish with 'light matt', 'normal' or 'matt' surface textures as set out in the Data Sheets: Electro-galvanised Steel Sheet (file reference EG 1) and Cold Rolled Products (file reference B1). It is also available in improved surface finish with 'light matt' or 'matt' surface textures.

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Available Dimensions

Refer to Price List 148

Table 4. Available dimensions

Thickness t (mm)	Width (mm)
$0,40 \leq t < 0,50$	800 - 1250
$0,50 \leq t < 0,60$	800 - 1300
$0,60 \leq t \leq 1,60$	800 - 1600

Notes:

1. Thicknesses and Widths are available in increments in accordance with Price List 148.
2. Within the ranges shown in the above table, certain specific sizes are Standard Items (refer to Price List 148). Standard Items are preferentially priced and are available in smaller quantities than non-standard items.

Dimensional tolerances

Electro-galvanised sheet is produced to the same tolerances as cold rolled sheet. Refer to Data Sheet: Cold Rolled Product Tolerances (file reference B1.1).

Coil inside diameter

The standard inside diameter is 610mm.

Certification

Test and analysis certificates are supplied.

Supply conditions

Electro-galvanised drawing and forming steels are supplied in terms of Price List 148 and ArcelorMittal South Africa's General conditions of Sale.

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