

# Dogal 200 and Dogal Form

## Mild Steels for Drawing

### General

The mild steels can be used for applications ranging all the way from simple pressing up to advanced drawing and stretch forming.

### Applications

Dogal 200 and Dogal Form are used for a number of applications, some examples are ventilation, lightening armatures and pressed details in automotive industry.

### Dimensions

#### Coils

Thickness: 0,40 – 2,50 mm Width: 700 – 1500 mm

#### Sheets

Thickness mm	Width mm	Length mm
0,50 - 1,50	600 - 1500	300 - 3600
1,50 - 2,50	600 - 1500	1000 - 8500

### Tolerances

Dogal 200 and Dogal Form are delivered with tolerances according to EN 10143.

### Mechanical properties

Steel grade		Yield strength $R_{p02}$ (N/mm <sup>2</sup> )		Tensile strength $R_m$ (N/mm <sup>2</sup> )		Elongation $A_{80\%}$	$r_{90^\circ}$	$n_{90^\circ}$
SSAB	EN 10327	Min	Max	Min	Max	Min	Min	Min
Dogal 200	DX51D	200	-	300	440	24	-	-
Dogal Form 30	DX53D	140	260	270	380	30	-	-
Dogal Form 36	DX54D	120	220	260	350	36	1,6	0,18
Dogal Form 40	DX56D*	120	200*	270	350	39	1,9	0,21

\*  $R_{p02}$  - max for DX56D is according to EN 10327 180 MPa

### Zinc coating

The various coating thicknesses are classified into weight classes which specify the minimum zinc weight in g/m<sup>2</sup> on both sides, as determined by means of the triple-spot test in accordance with EN 10327.

Weight class	Coating thickness per side $\mu\text{m}$	Weight determination g/m <sup>2</sup> on two sides	
		Triple-spot test min	Singel test min
Z100	7	100	85
Z120	8	120	100
Z140	10	140	120
Z200	14	200	170
Z275	20	275	235

\* The values are calculated on the basis of the minimum values for the triple-spot test (1  $\mu\text{m}$  = 7,14 g/m<sup>2</sup>).

### Surface treatment

Surface treated Dogal are provided with chemical and/or oiling passivation as surface protection. The chemical passivation are chromate free and fulfil the demands in the End-of-life Vehicles Directive (2000/53/EC) and the Directive on the restriction of the use of ceratin hazardous substances in electrical and electronic equipment (2002/95/EC).

## Chemical composition

(max)

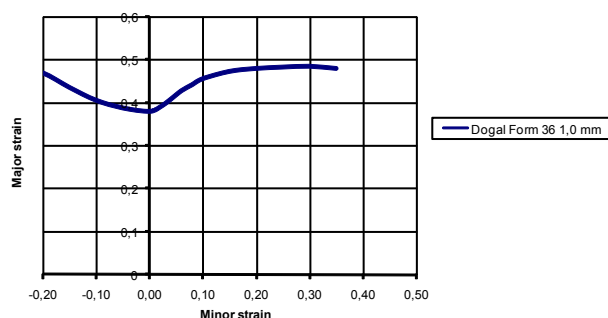
Steel grade	% by mass						
	C max	Si max	Mn max	P max	S max	Cr max	Al <sub>tot</sub> min
Dogal 200	0,070	0,020	0,27	0,020	0,020	0,080	0.015
Dogal Form 30	0,025	0,024	0,25	0,020	0,020	0,050	0.010
Dogal Form 36	0,004	0,030	0,20	0,020	0,015	0,050	0.020
Dogal Form 40	0,004	0,030	0,20	0,020	0,015	0,050	0.020

## Forming

Dogal 200 och Dogal Form have very good forming properties.

### Forming limit diagrams

(true strain)



## Technical service and information

Knowledge Service Center will be pleased to assist with additional information concerning this product from SSAB Tunnplåt, +46-243-7 2929, or use SSAB Tunnplåts own website [www.ssabdirekt.com](http://www.ssabdirekt.com).

## Welding

Dogal 200 och Dogal Form have very good welding properties.  
All conventional welding methods can be used.

The particulars in this data sheet are correct at the time of going to print and are intended to give general guidance for the use of the product. Subject to changes arising from continual product development. The information and data must not be regarded as guaranteed values, unless specially confirmed in writing.

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