

Dogal 800 DPX

Extra and ultra high strength steels

General

Dogal 800 DPX is an ultra high strength steel that is hot-dip galvanized for protection against corrosion.

Dogal DPX grades are dual phase steels that contain ferrite, which is soft and contributes to good formability, and martensite, which is hard and contributes to the strength of the material.

Dogal DPX grades show less spring-back after cold forming compared to HSLA steels with the same tensile strength due to a large gap between the yield strength and the tensile strength, i.e. a high work hardening exponent. Generally DPX steels are easy to cold form and excellent for stretch-forming.

Compared to normal dual phase steels the DPX steels have improved formability properties especially at bending and are superior at reverse bending operations.

Dimensions

Dogal DPX steels are available in thicknesses between 0.6 and 2.0 mm, and in widths up to 1500 mm. Limitations may occur depending on combinations of width and thickness.

Applications

Ultra high strength steels can be used for example in the automotive and transport industry. The improved bendability properties makes more complicated design solutions possible. Strength can be increased and weight can be saved by replacing mild steel or conventional high strength steels with extra and ultra high strength steel grades.

Tolerances

Dogal DPX are supplied to tolerances in accordance with EN 10143.

Zinc coating

The various coating thicknesses are classified into weight classes which specify the minimum zinc weight in g/m² on both sides, as determined by means of the triple-spot test in accordance with EN 10142.

| Weight class | Coating thickness per side * μm | Weight determination g/m ² 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 μm = 7,14 g/m²).

Surface appearance

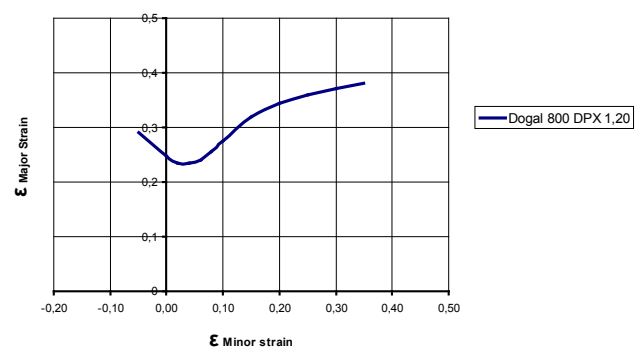
The surface is skin-passed.

Surface treatment

DPX steels are provided with oiling as surface protection.

Forming limit curves

(typical values)



Mechanical properties

(transverse to rolling direction)

| Steel grade | Yield strength $R_{p0,2}$ or R_{el} MPa min - max | Yield strength after deformation and bake hardening 170° C/20 min $R_{p2,0} + BH$ MPa min | Tensile strength R_m MPa min-max | Elongation A_{80} % min |
|---------------|--|---|---|--|
| Dogal 800 DPX | 620 - 770 | 770 | 800 - 950 | 10 |

Chemical composition

| Steel grade | C % max | Si % max | Mn % max | P % max | S % max | Cr % max | Al _{tot} % min |
|---------------|------------|-------------|-------------|------------|------------|-------------|----------------------------|
| Dogal 800 DPX | 0,16 | 0,25 | 1,90 | 0,020 | 0,0040 | 0,55 | 0,020 |

Formability properties

| Steel grade | Stretch-forming H/d | Deep drawing LDR | Inside radius for 90° bend (t=thickness) | Flanging | |
|---------------|------------------------|---------------------|---|----------|----------|
| | | | | Burr in | Burr out |
| Dogal 800 DPX | 0,33 | 2,05 | 0,9 x t | 1,30 | 1,25 |

Welding

Dogal 800 DPX can be welded with all conventional fusion welding methods. The steel can be spot welded to itself and also to other steels (soft steels and high strength steels). When spot welding is used it is recommended that increased electrode forces and longer weld times are used.

Technical service and information

Knowledge Service Center will be pleased to assist with additional information concerning this product from SSAB Tunnpåt.

Specifications herein are for general reference only. They are valid at date of publication and are subjects to change without notice due to ongoing product development.
Specifications are binding only if confirmed in writing.

SSAB Tunnpåt AB
781 84 Borlänge
Tel +46 243 700 00
Fax +46 243 720 00
office@ssabtunnplat.com
www.ssabtunnplat.com
www.ssabdirect.com

Denmark
SSAB Svensk Stål A/S
Tel +45 4320 5000
ssab.dk

Finland
OY SSAB Svenskt Stål AB
Tel +358 9 686 6030
ssab.fi

Czech Republic
SSAB Swedish Steel s.r.o.
Tel +420 545 422 550

France
SSAB Swedish Steel SA
Tel +33 1 55 61 91 00
ssab.fr

Germany
SSAB Swedish Steel GmbH
Tel +49 211 91 25-0
Tel +49 711 6 87 84-0
ssab.de

Great Britain
SSAB Swedish Steel Ltd
Tel +44 1905 795794
swedishsteel.co.uk

Italy
SSAB Swedish Steel S.p.A.
Tel +39 030 90 58 811
ssab.it

The Netherlands
SSAB Swedish Steel BV
Tel +31 24 679 05 50
ssab.nl

Norway
SSAB Svensk Stål A/S
Tel +47 23 11 85 80
ssab.no

Poland
SSAB Swedish Steel Sp.
z o.o.
Tel +48 22 723 03 80
Tel +48 22 723 00 49

Portugal
SSAB Swedish Steel
Tel +351 256 371 610
ssab.pt

Spain
SSAB Swedish Steel SL
Tel +34 91 300 5422
ssab.es

USA
SSAB Swedish Steel Inc
Tel +1 412-269 21 20
swedishsteel.us

Brazil
SSAB Swedish Steel Ltda.
Tel + 55 41 3014 9070
ssab.com.br

South Africa
SSAB Swedish Steel Pty Ltd
Tel +27 11 822 2570
swedishsteel.co.za

China
SSAB Swedish Steel
Tel +86 10 6466 3441
swedishsteel.cn

Korea
SSAB Swedish Steel Ltd
Tel +82 2 369 7272

Japan
SSAB Swedish Steel Ltd
Tel +81 3 3456 3447