

## Cold-rolled DP1000-GI

Ultra high-strength steels with good stretch, bending and edge formability

Tata Steel has a portfolio of cold-rolled coated ultra high-strength steels with a very high yield and tensile strength. The dual phase steels in this range combine high strength with good stretch, bending and edge formability. These properties make the products suitable for cold forming of relatively complex components produced by light deep drawing and/or roll forming. Typical applications are pillar reinforcements, sills, crossbeams and cross members.

Tata Steel offers two DP1000-GI products with different yield strengths and formability, DP1000LY-GI and DP1000HY-GI. Dependent on the application one or the other product can be applied to save weight compared to other high or advanced high-strength steels. Both DP1000LY-GI and DP1000HY-GI come with a hot-dip galvanised coating making it cost effective body structure solutions compared to electrogalvanised products.

### Legend

CR = cold-rolled    UHSS = ultra high-strength steel    DP = dual phase    LY = low yield    HY = high yield    GI = galvanised

### Mechanical properties

Grade	Specification	Direction	Yield strength	Tensile strength	Total elongation	BH <sub>2</sub>
			R <sub>p</sub> (MPa)	R <sub>m</sub> (MPa)	A <sub>80</sub> (%)	(MPa)
CR DP1000LY-GI	Tata Steel specification	L	590-730	980-1130	≥ 10	≥ 30
	Tata Steel typical	L	695	1006	14	51
CR590Y980T-DP	VDA 239-100	L	590-730	980-1130	≥ 10	≥ 30
CR DP1000HY-GI	Tata Steel specification	L	700-850	980-1130	≥ 8	≥ 30
	Tata Steel typical	L	767	1017	11	40
CR700Y980T-DP	VDA 239-100	L	700-850	980-1130	≥ 8	≥ 30

### Chemical composition

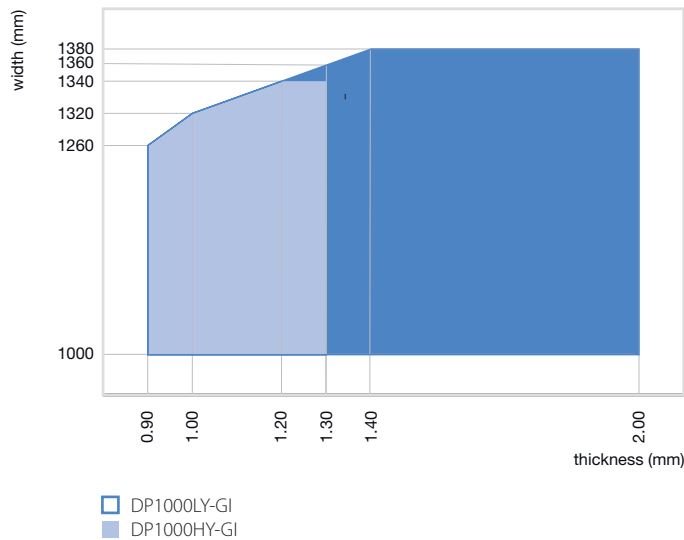
	C max.	Mn max.	Si max.	P max.	S max.	Al	Cr + Mo max.
DP1000LY-GI and DP1000HY-GI Typical properties	0.15	2.25	0.10	0.010	0.001	0.040	0.55
DP1000LY-GI according to CR590Y980T-DP (VDA 239-100)	< 0.20	< 2.9	< 1.0	< 0.040	< 0.010	0.015 - 1.0	< 1.4
DP1000HY-GI according to CR700Y980T-DP (VDA 239-100)	< 0.23	< 2.9	< 1.0	< 0.040	< 0.010	0.015 - 1.0	< 1.4

Values provided in mass percentages

### Application properties

	Bending angle at t = 1.0mm VDA 238-100 (°)	Hole expansion coefficient ISO 16630 (%)
DP1000LY-GI Typical properties	75	15
DP1000HY-GI Typical properties	75	20

## Dimensional window of CR DP1000-GI



Mechanical and dimensional properties are according to VDA 239-100 requirements.

## Relevant performance of CR DP1000-GI within the coated AHSS/ UHSS product portfolio

Grade	Bending/ Roll forming	Deep drawing	Weldability	Crash performance/ lightweighting potential
DP600-GI	+++	+++	+	o
DP800-GI	++	++	+	+
DP800-GI HyperForm	++	+++	+	+
CP800-GI	+++	+	+	++
DP1000LY-GI	+	++	+	++
DP1000HY-GI	+	o	+	+++

o = neutral    + = good    ++ = excellent    +++ = best

Our material experts are there to support the deployment of DP1000-GI grades in your specific application area. Our online material database Aurora Online provides our customers with comprehensive data sheets and ready to run input decks.

## For more information (also for access to Aurora Online):

E: [connect.automotive@tatasteeleurope.com](mailto:connect.automotive@tatasteeleurope.com)  
[www.tatasteeleurope.com/aurora](http://www.tatasteeleurope.com/aurora)

[www.tatasteeleurope.com](http://www.tatasteeleurope.com)

### Tata Steel

Automotive  
 PO Box 10000  
 1970 CA IJmuiden  
 The Netherlands

E: [connect.automotive@tatasteeleurope.com](mailto:connect.automotive@tatasteeleurope.com)  
[www.tatasteeleurope.com/automotive](http://www.tatasteeleurope.com/automotive)

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