

Cold-rolled DP800-UC

High strength, high ductility, high formability

DP800-UC is a cold-rolled, uncoated dual phase steel with a strength of approximately 800 MPa and a formability that makes it suitable for light deep drawn or crash formed components. The material is often used for body-in-white structural and reinforcement components like pillar reinforcements and crash structures as well as for light weight seat

structures. The good formability of this steel allows the user to increase the strength of the finished component by exploiting the high work hardening characteristics. Substitution of standard grades with DP800-UC provides opportunities to reduce thickness while maintaining the in-service performance, resulting in potential cost and mass savings.

Legend

CR = cold-rolled DP = dual phase LY = low yield UC = uncoated

Mechanical properties

Grade	Test direction	Yield strength	Tensile strength	Elongation
		R_p (MPa)	R_m (MPa)	A_{80} (%) min
Typical Tata Steel product properties	L	490	850	17
	T	480	870	17
EN 10338:2015, HCT780X	L or T	450-550	≥780	≥14
VDA 239-100: CR440Y780T-DP	L	440-550	780-900	≥14

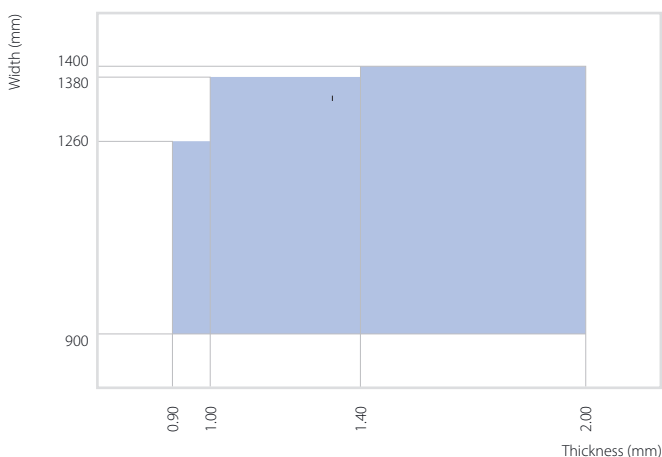
The index of elongation (A_{80}) indicates the original thickness length used, expressed in millimetres e.g. 80mm

Chemical composition

	C	Si	Mn	P	S	Al _{tot}	Cr+Mo	Nb+Ti	V	B
Typical Tata Steel product properties	0.14	0.24	1.70	0.014	0.004	0.040	0.56	0.05	0.001	0.0001
EN 10338:2015, HCT780X	≤0.18	≤0.80	≤2.50	≤0.080	≤0.015	0.015-2.00	≤1.40	≤0.15	≤0.20	≤0.005
VDA 239-100: CR440Y780T-DP	≤0.18	≤0.80	≤2.50	≤0.050	≤0.010	0.015-1.00	≤1.40	≤0.15	-	≤0.005

Values provided in mass percentages

Dimensional window of CR DP800-UC



Relevant performance of DP800-UC within the uncoated AHSS/UHSS product portfolio

Grade	Bending/ Roll forming	Deep drawing	Weldability	Crash performance/ lightweighting potential
DP600-UC	+++	+++	+	o
DP800-UC	++	++	+	+
DP1000LY-UC	+	++	+	++

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

Our material experts are there to support the deployment of DP800-UC 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 (and for access to Aurora Online):

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