

Hot-rolled CP800-UC

High strength and high formability for improved product durability

CP800-UC is an uncoated hot-rolled advanced high-strength steel with a very fine grained bainitic matrix microstructure combined with a small fraction of ferrite and martensite phases. This microstructure results in a tensile strength of approximately 800 MPa, and high yield strength that promotes uniformity of strength in the final part. The material has an excellent balance between hole expansion and tensile elongation which enables the customer to design and produce complex shaped components by cold stamping or roll forming.

Mechanical properties

The mechanical properties of the uncoated product are shown in the table below:

Hot-rolled grade	Test direction	Yield strength		Tensile strength		Elongation		Elongation		Elongation	
		R _p (MPa)		R _m (MPa)		A ₅₀ ¹ (%)		A ₅ (%)		A ₈₀ ² (%)	
HR660Y760T-CP (VDA 239-100)	L	660-820		760-960		≥11		≥13		≥10	
HDT780C (prEN 10338)	L	660-830		≥760				≥12		≥10	
Typical Tata Steel HR CP800-UC properties	L	680		780		15		16		12	

¹ The index of elongation (A₅₀) refers to the original thickness length used expressed in millimeters e.g. 50mm

² The index of elongation (A₈₀) refers to the original thickness length used expressed in millimeters e.g. 80mm

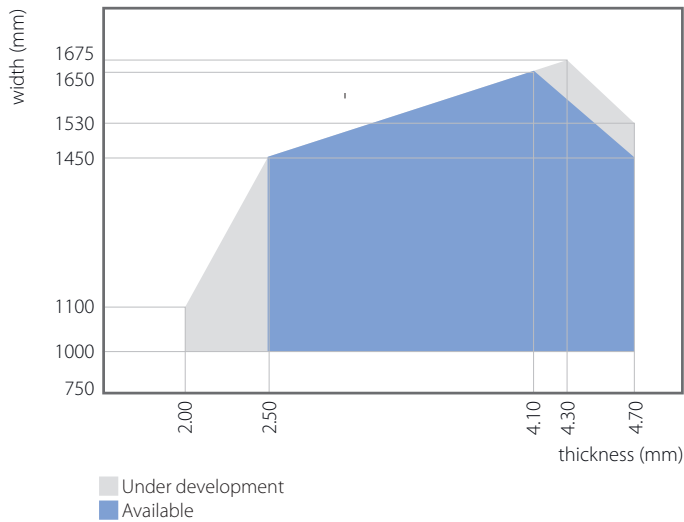
Chemical composition

The chemical composition fits Euronorm and VDA specifications for hot-rolled complex phase (CP) 800.

Specification	C		Mn		Si		P	S	Al		Cr+Mo	Ti+Nb	B
	min	max	min	max	min	max	max	max	min	max	max	max	max
HR660Y760T-CP (VDA 239-100)	≤0.18		≤2.20		≤1.00		≤0.08	≤0.015	0.015 – 1.2		≤1.0	≤0.25	≤0.005
HDT780C (prEN 10338)	≤0.18		≤2.5		≤1.00		≤0.08	≤0.015	0.015 – 1.2		≤1.0	≤0.25	≤0.005

Values provided in mass percentages

Dimensional window of Hot-rolled CP800-UC



Please refer to Tata Steel or your local sales representative for dimensions which fall outside of the above matrix. The clauses on shape control are exempted from the relevant standards for this product.

Our material experts are there to support the deployment of CP800-UC in your specific application area. Our online material database Aurora Online provides our customers with comprehensive datasheets and ready to run input decks.

For further information (also for access to Aurora Online):

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