TATA STEEL

TATA

Hot-rolled CP800-UC HyperFlange®

Freedom in your lightweight design with confident manufacturing

CP800-UC HyperFlange is part of Tata Steel's portfolio of advanced high-strength steels (AHSS). It features a fine-grained bainitic matrix microstructure combined with small fractions of ferrite and martensite. This composition makes it suitable for cold-formed applications in automotive chassis, ladder frames, suspensions and seating applications. Other specific applications include cross members, roof bows, door and sill reinforcements.

The product's higher hole expansion capacity (HEC) and elongation provide greater design freedom. Its superior edge ductility ensures manufacturing robustness, resulting in fewer edge cracks and enhanced press shop productivity and efficiency. With its high yield strength in the as-delivered condition, CP800-UC HyperFlange enables improved crash performance and lightweighting potential compared to conventional microalloyed steels. In addition, it delivers excellent fatigue resistance, superior sheared-edge quality, improved flatness, reliable weldability, and strong corrosion protection.

Mechanical properties

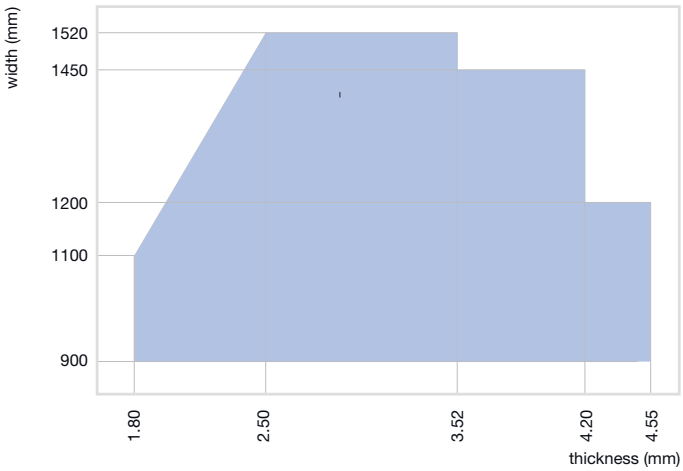
Grade	Testing direction	Yield strength R_p (MPa)	Tensile strength R_m (MPa)	Total elongation A_{80} (%) min	Total elongation A_{50} (%) min	BH_2 min (MPa)	HEC (%)
CP800-UC HyperFlange Typical	L	690	800	14	15	60	70
CP800 according to HR660Y760T-CP (VDA-239)	L	660-820	760-960	≥ 10	≥ 11	≥ 30	-

Chemical composition

	C	Mn	Si	P	S	Al_{tot}	Ti+Nb	Cr+Mo	B	Cu
CP800-UC HyperFlange Typical	≤ 0.10	≤ 2.00	≤ 0.50	≤ 0.030	≤ 0.005	0.015-0.1	≤ 0.20	≤ 0.12	≤ 0.005	≤ 0.06
CP800 according to HR660Y760T-CP (VDA-239)	≤ 0.18	≤ 2.20	≤ 1.00	≤ 0.050	≤ 0.010	0.015-1.2	≤ 0.25	≤ 1.00	≤ 0.005	≤ 0.20

Values provided in mass percentages

Available dimensions of CP800-UC HyperFlange®



Relevant performance of CP800-UC HyperFlange within our 800 MPa product offering

Grade	Hole expansion ratio	Tensile elongation	Fracture toughness	sheared-edge quality
CP800-UC HyperFlange	++	+	++	++
CP800-UC	o	o	++	++
XPF800-UC	++	++	o	o

o = neutral + = good ++ = excellent

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

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

E: connect.automotive@tatasteeleurope.com
www.tatasteeleurope.com/aurora

Mechanical and dimensional properties are according to VDA239-100 requirements.
Please contact us for other dimensions.

www.tatasteelnederland.com

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