Technical Datasheet

Unalloyed Steel C60 XTP

General product description:
Xtreme Performance Technology enables the properties of the unalloyed steel C60 to be tailored to meet application-specific component requirements. C60 XTP is particularly wellsuited for parts whose load profile requires a material that exhibits very high strength, toughness and wear resistance.

Mechanical-technological properties

Variant	$R_{p0.2}$ [MPa]	R_m [MPa]	A_5 [%]	A_g [%]	Z [%]	KV_{RT} [J]	T_{27} [°C]
high strength, high toughness	800	920	17	7	50	80	-50
very high strength, high toughness	930	1045	15	6	45	75	-40
very high strength, very high toughness	1185	1315	11	4	40	50	-40

Typical mechanical-technological values

$R_{p0.2}$ = yield strength (at 0.2% offset), R_m = tensile strength, A_5 = elongation after fracture, A_g = uniform elongation, Z = reduction of area at fracture, KV = notch impact energy as per DIN EN ISO 148-1:2017-05, RT = room temperature, T = temperature, T_{27} = transition temperature at 27 J

Chemical composition (cast analysis by mass-%)

Variant	C	Si	Mn	P	S	Cr	Mo	Ni	Ti
min.	0.57	-	0.60	-	-	-	-	-	-
max.	0.65	0.40	0.90	0.045	0.045	0.04	0.10	0.40	-

The chemical analysis corresponds to C60 (1.0601).

Maximum carbon equivalent:

Max. CET (CEV) 0.77 (0.87)
Typ. CET (CEV) 0.71 (0.78)

$$CET = C + \frac{Mn + Mo}{10} + \frac{Cr + Cu}{20} + \frac{Ni}{40}$$

$$CEV = C + \frac{Mn}{6} + \frac{Cr + Mo + V}{5} + \frac{Cu + Ni}{15}$$

Surface properties:
Bars are 100 % eddy current tested acc. to surface quality class 3 of EN 10277-1. Bar ends untested on both sides with a length of 50 mm if not otherwise requested by customer.

Miscellaneous:
Other agreements acc. to order.

Condition of delivery:
Stabstahl, XTP-treated
Diameter range 18 – 40 mm, tolerance h11
Bar straightness 0.5 mm/m

Fabrication and other recommendations:
Moderately good machinability, very good induction hardenability.

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