Swiss Steel Group

Technical Datasheet
Unalloyed Steel
C60 XTP®

30.06.23 Rev. N°1

General product description

The property profile of the unalloyed quenched and tempered steel C60 is optimized with maximum strength and toughness by the Xtreme Performance Technology. It is particularly suitable for components that require a combination of very high endurance and wear resistance under load.

International description

Steel number	EU/DE	ASTM	JIS	AFNOR	B.S.	SS
1.0601	C60	1060	S60CM	C60	C60 60CS/HS	C60

Chemical composition (cast analysis by mass-%)

Variant	C	Si	Mn	P	S	Cr	Mo	Ni	Cu
min.	0,57	0,10	0,60	–	–	–	–	–	–
max.	0,65	0,40	0,90	0,045	0,045	0,40	0,10	0,40	0,30

The analysis corresponds to C60 (1.0601) according to DIN EN ISO 683-1.
Customer-specific chemical analyses are possible after consultation.

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	795	900	19	8	50	80	-40

Typical mechanical-technological properties:
$R_{p0.2}$ = 0.2% yield strength, R_m = tensile strength, A_5 = elongation at fracture,
A_g = uniform elongation, Z = reduction of area,
KV = Charpy impact strength according to DIN EN ISO 148-1, RT = room temperature,
T = temperature, T_{27} = transition temperature of the Charpy impact strength at 27 J.

Customized mechanical properties are possible after consultation.

Carbon equivalent

Max. CET (CEV)	0,77 (0,87)
Typ. CET (CEV)	0,71 (0,78)

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

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

Technical Datasheet

Unalloyed Steel C60 XTP®

Microstructure

The microstructure and the microscopic oxide purity grade according to DIN 50602 can be agreed upon. The grain size according to ASTM E 112 is ≥ 10.

Surface properties

The surface condition complies with the requirements of SN EN 10277. The bars are crack-tested according to surface quality class 3 as standard. In the standard version, the ends of the bars up to 50 mm are not tested.

Miscellaneous

Other agreements according to order.

Condition of delivery

- Bar steel, XTP® treated
- Dimension range 18 - 40 mm
- Delivery length up to 8,000 mm
- Tolerance h11 and bar straightness 0.5 mm/m according to DIN EN 10278

Fabrication and other recommendations

Very good weldability, comparatively good machinability, thread rolling and cutting capability, very good cold formability, bendable.

Your benefits at a glance

Increased fatigue strength

- Higher load capacity and component safety
- Longer service life and lower maintenance costs
- Lightweight potential

Increased productivity

- Reduced hardness distortion and increased straightness
- Optimized diameter tolerances

Highest quality

- Single bar processing
- State-of-the-art process control
- Low decarburization and scale formation

For further info on our product range of tool steel, stainless steel and Engineering steel please visit www.swissksteelgroup.com

Discover our Green Steel portfolio on www.swissgreensteel.com

30.06.23 Rev. N°1

Swiss Steel Group
Steeltec AG / Steeltec GmbH:
Düsseldorf
info.engineering@swissksteelgroup.com