Comprehensive range of engineering steel solutions

Swiss Steel Group

Swiss Steel is a leading global producer of special long steel with operations around the world. The independent Group has an integrated business model, from production to distribution, which allows Swiss Steel to leverage strategic and operational synergies in the interest of its customers.

Production – specialized steelmaking, forging and rolling plants in Europe and North America; drawing mills, bright steel production and heat treatment in northern and western Europe, Turkey and China.

Our Production assets encompasses the mills, Deutsche Edelstahlwerke, Finkl Steel, Steeltec and Ugitech, operating a total of seven state-of-the-art steelmaking EAFs in Canada, France, Germany, Switzerland and the USA. The steel plants complement each other in terms of formats and qualities, covering the entire spectrum for special long steel. Besides the three main product groups – tool steel, engineering steel and stainless steel – the range includes special steel products. Characteristics such as close dimensional tolerance, strength and surface quality are precisely matched to our customer's brief.

Our "Green Journey"

We are embarking into a Green Steel + Green Services program. CO2 Neutrality is our utlimate goal. We propose already on the market some green steel products and develop green services initiatives.

Swiss Steel Group is a reliable global partner in steel consulting, processing and supply.

We guarantee the consistent and reliable supply and end-toend customer solutions worldwide with around 60 distribution and services branches in more than 25 countries. These include technical consulting and downstream processes such as sawing, milling and hardening, heat treatment as well as supply chain management, up to just in time deliveries. We pursue the goal of offering our customers global access to our products and services – with excellent quality standards and first-class services.

Such a service approach based on our state-of-the-art product range leads to long lasting relations with our customers who value us as partner in their development.

We count more than 300 stainless steel grades in our offering. Don't hesitate to contact us for any special need you require in your next project and your innovation process.

Our star products dedicated to the most stringent markets

With our long-term experience we are supplying our high quality engineering steel to industries such as automotive, bearings, oil & gas, mechanical engineering, energy, hydraulics, aerospace.

AFP (ferritic-pearlitic steels)

– Our MICRODUR® for hot forging treatment where the ferritic-pearlitic structure associated with Vanadium raises yield strength as well as the tensile strength to levels not far below those of QT steels.

Bainitic steels

– BAINIDUR® 1300 and SWISSBAIN 7MnB8 with high strength and process reliability for distortion-free and cost effective forging, cold forming or direct machining (eg steering).

Bearing steels

– Our DURAPUR® to fulfill the highest requirements regarding purity, fatigue strength and wear resistance.

Case hardening steels

– CARBODUR® for highly stressed components in the automotive and mechanical engineering industries and ESP 65 with excellent machinability.
– SWISSFLEX 20.6.

Chain steels

– CARBODUR® / CrMnNiMo grades for high strength and ductility, wear resistance and weldability.

Cold forming / Cold heading steels

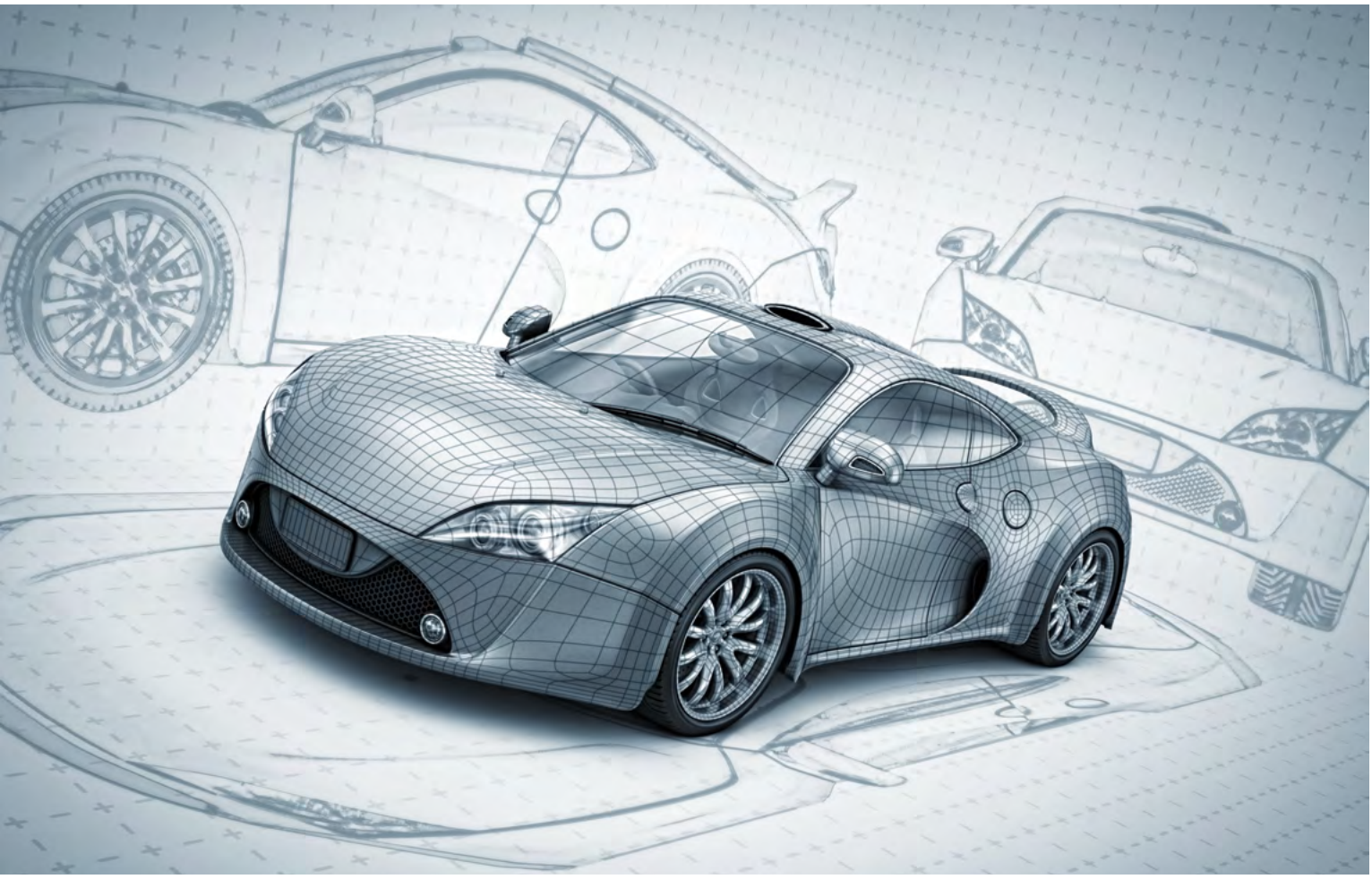
– FIRMODUR® / Cold Heading Qualities with / without Boron for highly stressed fastening elements.

Splittable connecting rods steels

– Our MICRODUR® grades for the highest fatigue requirements and optimized machinability properties.

Easy machinability steels

– Our OPTICUT® and OPTICUT+ processes adapted to machining typologies and allowing efficient machining with comparable or unchanged mechanicals.



Lead free - free cutting steels

– DUODUR® / S, SMn and SMn Pb, OPTICUT®, SWISSCUT SC30(Pb) and SC37(Pb), OPTICUT, OPTICUT+ grades for outstanding machinability and chip breaking properties.

High and higher strength special steels

– ETG® with outstanding machinability for technically complex parts and processes.
– HSX® steels for highly stressed parts, excellent machinability.

Nitriding steels

– Our NITRODUR® grades for a high surface hardness combined with a significant wear resistance and fatigue strength.

Quenched and tempered steels

– FIRMODUR®, for the characteristic significant tensile strength as well as a high yield strength and ductility.

Reinforcing steels

– TOP12 and TOP700 reinforcing steels for highest requirements.

Spring steels

– FIRMODUR® and CARBODUR® steels with a high yield-to-tensile ratio.

Structural and Mining steels

– Our S235JR/J2, S275JR/J2, S355JR/J2 with high yield strength, tensile strength and high ductile properties for rock breaking application, commercial and industrial building construction.

Our engineering steel grades

From ingots, blooms, semi-finished, hot rolled and forged products to further processed materials, we offer more than 1000 grades and grade variations dedicated to the most specific applications. We are covering all the engineering steel families: bearing steels, case-hardening steels, chain steels, free cutting steels, Q+T steels, etc.

For highest quality demands we use the electroslag remelting (ESR) as well as the vacuum arc remelting procedure (VAR). Thanks to the our state-of-the-art Research and development centers, we can also work in collaboration with our customers to develop new products and technologies for special steel needs.

EN material number	EN symbolic designation	Brands
AFP STEELS / Bainitic steels		
1.1301	19MnVS6	
	20MnVS6	
1.5232 / 1.1302	27MnSiVS6 / 30MnVS6	Microdur 5232
	38MnS6	
1.5231 / 1.1303	38MnSiVS6 / 38MnVS6	Microdur 52315
1.5233 / 1.1304	44MnSiVS6 / 46MnVS6	Microdur 5233
		Bainidur 1300

EN material number	EN symbolic designation	Brands
BEARING STEELS		
1.3505	100Cr6	Durapur 3505
1.3520	100CrMnSi6-4	Durapur 3520
1.3536	100CrMo7-3	Durapur 3536
1.3537	100CrMo7	
1.3538	100CrMo7-4	
1.3539	100CrMnMoSi8-4-6	
	100MnCrSi4-4	
	95CrMnSi6-6	
	100CrMnMo5-5-2	
1.1219	C56E2	Durapur 1219
SPLITTABLE CONRODS STEELS		
1.1249	C70S6	Firmodur 1249
	36MnVS4 / 38MnVS4mod.	
	70MnVS4 / 71MnVS4	
	30MnCrVB4	

Our engineering steel grades

EN material number	EN symbolic designation	Brands
CASE HARDENING STEELS		
1.1140	C15R	Carbodur 1140
1.1208	C16R	
1.3531	16CrNiMo6	
1.3533	18NiCrMo14-6	
1.3576	20NiCrMo7	
1.5714	16NiCr4	
1.5715	16NiCrS4	
1.5732	14NiCr10	Carbodur 5732
1.5752	15NiCr13	Carbodur 5752
1.5792	12NiCr3	Carbodur 5792
1.5805	10NiCr5-4	Carbodur 5805
1.5807	15NiCr6-4	Carbodur 5807
1.5810	18NiCr5-4	Carbodur 5810
1.5860	14NiCr18	Carbodur 5860
1.5918	17CrNi6-6	Carbodur 5918
1.5919	15CrNi6	Carbodur 5919
1.5920	18CrNi8	Carbodur 5920
1.6523	20NiCrMo2-2	Carbodur 6523
1.6526	20NiCrMoS2	
1.6543	21NiCrMo2-2	Carbodur 6543
1.6566	17NiCrMo6-4	Carbodur 6566
1.6569	17NiCrMoS6-4	
1.6571	20NiCrMoS6-4	Carbodur 6571
1.6587	18CrNiMo7-6	Carbodur 6587
1.6657	14NiCrMo13-4	Carbodur 6657
1.6723	15NiCrMo16-5	Carbodur 6723
1.6745	40NiCrMo10	
1.6757	20NiMoCr6-5	Carbodur 6757
1.6773	36NiCrMo16	
1.7015	15Cr3	Carbodur 7015
1.7016	17Cr3	Carbodur 7016
1.7121	20CrMnS3-3	Carbodur 7121
1.7131	16MnCr5	Carbodur 7131
1.7139	16MnCrS5 / 16MnCrS5	Carbodur OPTICUT, OPTICUT +
1.7147	20MnCr5	Carbodur 7147

EN material number	EN symbolic designation	Brands
CASE HARDENING STEELS		
1.7149	20MnCrS5	Carbodur 7149
1.7160	16MnCrB5	Carbodur 7160
1.7211	23CrMoB4	Carbodur 7211
1.7242	16CrMo4	
1.7243	18CrMo4	Carbodur 7243
1.7244	18CrMoS4	
1.7271	23CrMoB3-3	Carbodur 7271
1.7311	20CrMoS2	Carbodur 7311
1.7321	20MoCr4	Carbodur 7321
1.7323	20MoCrS4	Carbodur 7323
1.7325	25MoCr4	Carbodur 7325
1.7332	17CrMo3-5	Carbodur 7332
1.7333	22CrMoS3-5	Carbodur 7333
1.7707	30CrMoV9	
1.7910	32MnCrMo6-4-3	
	17MnCr5	
	18MnCrMo5	
	20MnCrMo4-2	
	20MnCrNiMo5-3	
	18NiCrMo5	
	27MnCr5	
	27CrMo4	
	30NiCrMoV10	
	39NiCrMo3	
	20NiCr4	
	C10R+Pb	
	C15R+Pb	
	16MnCrS5+Pb	
	17NiCrMoS6-4+Pb	

EN material number	EN symbolic designation	Brands
CHAIN STEELS		
1.0412	27MnSi6	
1.0495	21Mn5	
1.6522	20NiCrMo2	Carbodur 6522
1.6527	20NiCrMo3-3	Carbodur 6527
1.6541	23MnNiCrMo5-2	Carbodur 6541
1.6758	23MnNiCrMo5-4	Carbodur 6758
	C22B+Ni	
	15MnNiCr4-2-2	
	28MnNiCrB5-2-2	
REINFORCING STEELS		
		Top700
1.4003	X2CrNi12	Top12
	St 900/1100	Formwork ties
	St 900/1100	Formwork ties weldable
COLD FORMING STEELS		
1.0214	C10C	
1.0303	C4C	
1.5502	17B2	
1.5508	23B2	Firmodur 5508
1.5519	7MnB8	SwissBain
1.5520	17MnB4	
1.5525	20MnB4	Firmodur 5525
1.5526	30MnB4	Firmodur 5526
1.5535	23MnB4	
1.5536	27MnB4	
1.5538	37MnB5	
1.7034	37Cr4	
1.7076	32CrB4	Firmodur 7076
1.7077	36CrB4	Firmodur 7077
	38B3	
	C4C+Pb	

EN material number	EN symbolic designation	Brands
FREE CUTTING STEELS		
1.0715	11SMn30	Duodur 0715
1.0718	11SMnPb30	
1.0721	10S20	
1.0726	35S20	
1.0727	46S20	
1.0736	11SMn37	Duodur 0736
1.0737	11SMnPb37	
1.0761	38SMnPb28	
1.0762	44SMn28	Duodur 0762
1.0763	44SMnPb28	
1.0765	36SMnPb14	
NITRIDING STEELS		
1.8507	34CrAlMo5-10	Nitrodur 8507
1.8509	41CrAlMo7-10	Nitrodur 8509
1.8515	31CrMo12	Nitrodur 8515
1.8519	31CrMoV9	Nitrodur 8519
1.8521	15CrMoV5-9	
1.8522	33CrMoV12-9	Nitrodur 8522
1.8523	40CrMoV13-9	Nitrodur 8523
1.8524	8CrMo16	Nitrodur 8524
1.8550	34CrAlNi7-10	Nitrodur 8550
	40CrAlMo6-12Pb	

Our engineering steel grades

EN material number	EN symbolic designation	Brands
QUENCHED AND TEMPERED STEELS		
1.0402	C22	
1.0501	C35	
1.0503	C45	
1.0535	C55	
1.1149	C22R	
1.1172	C35ES	Firmodur 1172
1.1173	30Mn5	
1.1178	C30E	
1.1179	C30R	
1.1180	C35R	Firmodur 1180
1.1181	C35E	Firmodur 1181
1.1191	C45E	Firmodur 1191
1.1201	C45R / C45	Firmodur 1201 OPTICUT, OPTICUT +
1.1203	C55E	
1.1209	C55R	
1.1213	Cf53	Firmodur 1213
1.1223	C60R	
1.1241	C50R	
1.1244	70Mn4	
1.5531	30MnB5	
1.6510	39NiCrMo3	
1.6513	28NiCrMo4	
1.6546	40NiCrMo2	
1.6565	40NiCrMo7	
1.6745	40NiCrMo10	
1.6580	30CrNiMo8	Firmodur 6580
1.6582	34CrNiMo6	Firmodur 6582

EN material number	EN symbolic designation	Brands
QUENCHED AND TEMPERED STEELS		
1.7033	34Cr4	Firmodur 7033
1.7037	34CrS4	Firmodur 7037,
1.7037	34CrS4Bi	34CrS4 VITAC® BC
1.7035	41Cr4	Firmodur 7035
1.7038	37CrS4	
1.7039	41CrS4	Firmodur 7039
1.7182	27MnCrB5-2	
1.7185	33MnCrB5-2	
1.7213	25CrMoS4	Firmodur 7213
1.7218	25CrMo4	Firmodur 7218
1.7220	34CrMo4	Firmodur 7220
1.7223	41CrMo4	Firmodur 7223
1.7225	42CrMo4	Firmodur 7225
1.7226	34CrMoS4	Firmodur 7226
1.7227	42CrMo4 OPTICUT	Firmodur 7227, 42CrMo4
1.7228	50CrMo4	Firmodur 7228
	30NiCrMo16	
	40CrMo4	
	20CrMo12	
	15CrMoV6	
		Grade B7
		Grade L43
		Grade L7

EN material number	EN symbolic designation	Brands
SPRING STEELS		
1.2208	31CrV3	
1.5023	38Si7	
1.5024	46Si7	Firmodur 5024
1.5026	56Si7	Firmodur 5026
1.7102	54SiCr6	Carbodur 7102
1.7106	56SiCr7	Carbodur 7106
1.7108	61SiCr7	Carbodur 7108
1.7117	52SiCrNi5	
1.7176	55Cr3	Carbodur 7176
1.7701	52CrMoV4	Carbodur 7701
1.8062	46SiCrMo6	Carbodur 8062
1.8152	54SiCrV6	
1.8159	51CrV4	Carbodur 8159
STRUCTURAL AND MINING STEELS		
1.0014	S235J0	
1.0016	S235J2G3	
1.0037 / 1.0038	S235JR	
1.0117	S235J2	
1.0044	S275JR	
1.0145	S275J2	
1.0045	S355JR	
1.0553	S355J0	
1.0570	S355J2G3	
1.0577	S355J2 OPTICUT, OPTICUT +	
1.0596	S355K2	
1.0050	E295	
1.0060	E335	
1.0070	E360	

EN material number	EN symbolic designation	Brands
OTHER STEELS (CARBON, ALLOYED, FORGED)		**American Standard**
	EN32B	AISI 1018
	EN3A	AISI 1020
		AISI 1026
1.6657		AISI 9310
1.6523	20NiCrMo2-2	SAE 8620
1.6526	20NiCrMoS2-2	SAE 8620
1.6511	36CrNiMo4	AISI 4340
STEELS FOR OIL & GAS		**Brands**
1.7216	30CrMo4	Firmodur 7216
1.7273	24CrMo10	Firmodur 7273
1.7275	10CrMoBS5	Firmodur 7275
1.6562	40NiCrMo8-4	Firmodur 6562
1.6595		Firmodur 6595
1.6591		Firmodur 6591
1.7380	10CrMo9-10	Firmodur 7380
		American Standard
		AISI 4130
		AISI 4140H
		AISI 4145
		AISI 4330V mod
		AISI 4340
		AISI 8620
1.4006	X10Cr13	AISI 410
1.4021	X20Cr13	AISI 420 & 420mod
1.7386	X12CrMo9	A182 F9
1.7375	12CrMo9-10	A182 F22
~1.7335	13CrMo4-5	A182 F11

We provide a range of effective solutions in all dimensions

Ingots

1 - 40 t

Casting

138 mm
150 mm
205 mm
240 mm
265 mm

475 x 340 mm

Semi-finished

50 - 600 mm rising in 1 mm increments

Bars

5 - 1100 mm

50 - 400 mm

Width: 80 - 600 mm

Thickness: 24 - 160 mm

Width/thickness ratio: max. 10:1

Hexagonal: 17,7 - 62 mm

Ribbed: 16,0 - 40 mm

Wire rod

5 - 44 mm

Hexagonal:
17,7 - 42.5 mm

Ribbed:
6,0 - 14 mm

Bright Steel

0,8 - 1100 mm

2 - 400 mm

2 - 77 mm

2 - 27 mm

Bright steel in bars of 2 to 1100 mm

Bright steel in coils of 0,8 to 27 mm

Peeled bars: 10 - 1100 mm

Ground: 10 - 100 mm

Product

Open-die forgings, rotation-symmetric forgings forged to shape on request

Single-piece weight up to 60 t

Pre-machining

Pre-machined rotation symmetric forgings to shape

Our Group unique products

Steeltec

– ETG® – High strength special steel for complex precision parts
High strength and high toughness even in the as-delivered state which guarantees short-breaking chips, extended tool lives and a high degree of uniformity of material properties across batches.

– HSX® – Higher strength special steels for highly stressed parts
Combination of high strength and high toughness even in their as-delivered state to manufacture precision parts for heavy-duty applications with no additional operations such as hardening, straightening, grinding and deburring necessary.

– SWISSCUT® – A high-performance free-cutting steel to minimize tool wear and maximize productivity and profitability.

– ESP 65 – Case-hardening steel that ensures process reliability and cost benefits.

– TOP12 – Reinforcing steel with increased corrosion resistance
Top12 presents a reliable and economic solution for improving the corrosion resistance of reinforced concrete significantly and thus extending their lifetime. It is suited for constructional elements exposed to splash water and stationary water and for areas jeopardized by carbonation.

– TOP700 – High strength reinforcing steel
Top700 is a micro-alloyed reinforcing steel exhibiting a yield stress exceeding 700 N/mm^2 to meet high static requirements and to open up new possibilities in reinforced concrete construction.

– 11SMN30+BX 5 – The most machinable free-cutting steel without Te, Se, Bi and Pb.

Deutsche Edelstahlwerke

– BAINIDUR® – The ideal solution for highly stressed parts and for manufacturing sophisticated forgings even more cost-efficiently (also for large format parts up to 60 mm round). It also permits a large process window with regard to the temperature control during forging and cooling.

- No additional tempering necessary and no risk of distortion
- Constant high quality level of manufactured parts
- Strength of 1200 MPa, can be increased on request
- Very good machinability and nitridability.

– FIRMODUR® – Excellent strength to toughness ratio after quenching and tempering, high fine grain stability and high wear resistance.

– CARBODUR® – Case-hardening steel, the high macroscopic and microscopic degree of purity, the homogeneity of the microstructure and the fine-grain stability of CARBODUR® steel set standards.

– NITRODUR® – High surface hardness and fatigue strength and, in addition, higher temperatures are involved. Nitrided surfaces maintain their hardness and strength up to operating temperatures of approx. 500 °C - 550 °C.

– DURAPUR® – We set standards in the production of rolling bearing steels for the highest loads.

– OPTIDUR® – A sustainable material concept with its own hardness properties.

– DEW® RC+T (Rapid Cooling + Tempering), the innovative process of DEW for improved material properties in case hardening steels DEW, together with its customers, has developed RC+T as an alternative process to conventional heat treatment resulting in significantly leaner process chains and improved material properties. With the temperature-controlled rolling process and subsequent tempering the steel properties are optimized for increased component quality.

– Advantages of RC+T

- Microstructure is fine-grained and resembles a AC-annealed structure
- Uniform hardness over the entire cross-section and better formability
- Smooth and score-free surface in rolled condition
- Lower decarburization tendency compared to FP-annealed material
- Increased output due to reduced scale formation.

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