



Trusted Supplier Of Steel & Stainless Steel
serving Construction Manufacturing & Fabrication .



Products Catalogue

— *more than steel* —



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catalogue designed by :



Strong by Nature , Sleek by Design

"At HS International, our vision transcends mere supply—we are committed to being the cornerstone of Egypt's industrial growth. By delivering premium-quality raw materials at unrivaled competitive prices, we strive to serve every sector of the Egyptian market with precision and reliability. Our ambition is clear: to lead as the nation's #1 steel provider, fueling progress through innovation, integrity, and unwavering excellence in every transaction."

CEO

Massan Salaheldine Manna



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Company Profile .

Founded in 2020, HS INTERNATIONAL is a leading supplier of premium steel products in Egypt. The company began its journey with the import of high-quality steel pipes, quickly earning a reputation for reliability and efficiency in the local market .

Headquartered in Amreya, with well-equipped storage facilities in Abdelkader, HS METAL is committed to serving the industrial and construction sectors with consistent quality, competitive pricing, and responsive service .

Backed by a skilled team and a clear vision for growth, HS METAL continues to expand its product portfolio and client base across Egypt, becoming a trusted partner in steel solutions .





02 | Carbon & Mild Steels .



Steel is an alloy consisting of the degeneration of the element iron and the element carbon. Carbon steels, on the other hand, are iron-carbon alloys that contain small amounts of elements from steel production methods, such as manganese, silicon, sulfur and phosphorus. They are also known as manufacturing steels because their usage areas are the construction and manufacturing sector. It is used in the production of tools such as machine, bolt, nut, axle, ship shaft, propeller shaft, gear wheel, transmission shaft, splined shaft, cargo hook, lever arm, rail, pickaxe, shovel. It is suitable for hardening by heat treatment.

01 | Tempered Steels .

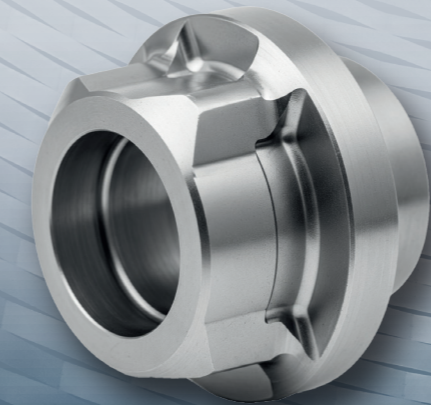
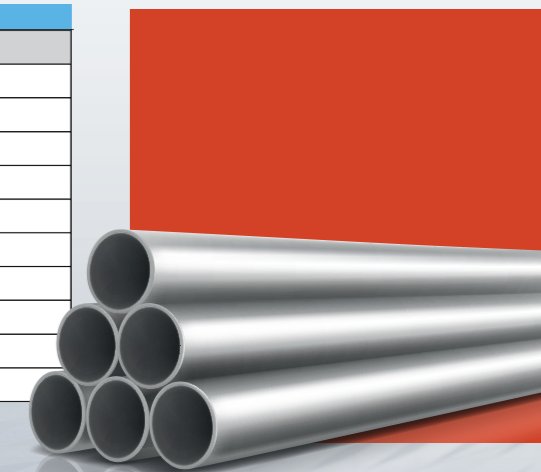


are machine mild steels that have hardenable properties, are required to have high strength and ductility as a result of heat treatment, and are used in alloyed and non-alloyed forms. The curing process can be summarized simply as tempering after hardening. The tempering is a process that gives steels high yield - tensile strength as well as ductility. Due to the superior mechanical properties gained at the end of the tempering process, tempered steels are among the largest and most consumed steels in the manufacture of parts such as various machine and engine parts, forged parts, various bolts, nuts and studs, crankshafts, axles, control and drive parts, piston rods, various shafts and gears.

Mat. No.	DIN	SAE/AISI	GOST	C%	Si%	Mn%	P max%	S max%	Cr%	Mo%	Ni%
1.6546	40NiCrMo2-2	8640	38XTHM	0.35-0.44	0.15-0.35	0.70-1.00	0.04	0.04	0.40-0.60	0.15-0.25	0.40-0.70
1.6582	34CrNiMo6	4340	38X2H2MA	0.30-0.38	0.40	0.30-0.60	0.035	0.035	1.80-2.20	0.30-0.50	1.40-1.70
1.7033	34Cr4	5132	35X	0.30-0.37	0.40	0.60-0.90	0.035	0.035	0.90-1.20	-	-
1.7035	41Cr4	5140	40X/45X	0.40-0.45	0.40	0.60-0.90	0.035	0.035	0.90-1.20	-	-
1.7039	41Cr54	5140	40X/41X-y	0.38-0.45	0.15-0.40	0.60-0.90	0.04	0.04	0.90-1.20	-	-
1.7220	34CrMo4	4135	34XM/35XM	0.30-0.37	0.40	0.50-0.80	0.035	0.035	0.90-1.20	0.15-0.30	-
1.7225	42CrMo4	4140	35XM/38XM	0.38-0.45	0.40	0.50-0.80	0.035	0.035	1.00-1.30	0.15-0.30	-
1.7227	42CrMoS4	4140	35XM/38XM	0.38-0.45	0.15-0.40	0.50-0.80	0.04	0.04	1.00-1.30	0.15-0.30	-
1.7228	50CrMo4	4150	50X/50XMA	0.46-0.51	0.40	0.50-0.80	0.035	0.035	0.90-1.20	0.15-0.30	-

Mat. No.	DIN	SAE/AISI	GOST	Usage Area
1.6546	40NiCrMo2-2	8640	38XTHM	Propeller shafts, axles, arms, camshafts, heavy-duty components
1.6582	34CrNiMo6	4340	38X2H2MA	Crankshafts, parts under high stress, engine components
1.7033	34Cr4	5132	35X	Crankshafts, transmission parts, front axle sleeves in engine and vehicle construction
1.7035	41Cr4	5140	40X/45X	Crankshafts, sleeves, steering shafts, and similar parts
1.7039	41Cr54	5140	40X/41X-y	Tempered steel parts: gear components, shafts, piston rods, cyanide-hardened parts
1.7220	34CrMo4	4135	34XM/35XM	Crankshafts, sleeves, transmission shafts in automotive and aircraft industries
1.7225	42CrMo4	4140	35XM/38XM	Gears, shafts, high-strength components in cars and aircraft
1.7227	42CrMoS4	4140	35XM/38XM	Same applications as above – suitable for automotive and aerospace
1.7228	50CrMo4	4150	50X/50XMA	High-toughness parts, gearboxes, steering components, drivetrain parts in cars and aircraft construction

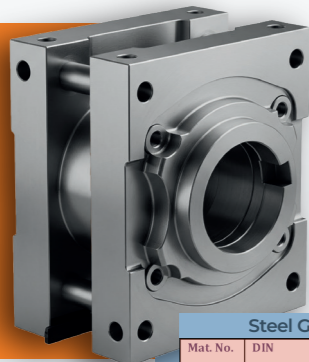
Steel Grade				Chemical Composition							
Mat. No.	DIN	SAE/AISI	GOST	C %	Si %	Mn %	P max %	S max %	Cr %	Mo %	Ni %
1.0204	C8	1008	08kn	0.06 - 0.10	0.40	0.30 - 0.60	0.045	0.045	0.40	0.10	0.40
1.0301	C10	1010	10	0.08 - 0.12	0.40	0.30 - 0.60	0.045	0.045	0.40	0.10	0.40
1.0402	C22	1020	20	0.17 - 0.24	0.40	0.30 - 0.60	0.045	0.045	0.40	0.10	0.40
1.0528	C30	1030	30	0.27 - 0.34	0.40	0.50 - 0.80	0.045	0.045	0.40	0.10	0.40
1.0516	C35	1035	35	0.32 - 0.39	0.40	0.50 - 0.80	0.045	0.045	0.40	0.10	0.40
1.0511	C40	1040	40	0.37 - 0.44	0.40	0.50 - 0.80	0.045	0.045	0.40	0.10	0.40
1.0503	C45	1045	45	0.42 - 0.50	0.40	0.50 - 0.80	0.045	0.045	0.40	0.10	0.40
1.0540	C50	1050	50	0.47 - 0.55	0.40	0.50 - 0.90	0.045	0.045	0.40	0.10	0.40
1.0601	C60	1060	60	0.57 - 0.65	0.40	0.60 - 0.90	0.045	0.045	0.40	0.10	0.40
1.0615	C70	1070	70	0.67 - 0.75	0.40	0.60 - 0.90	0.045	0.045	0.40	0.10	0.40



Mat. No.	DIN	SAE/AISI	GOST	Usage Areas
1.0204	C8	1008	08kn	Manufacture of bolts, nuts, temperable machine parts
1.0301	C10	1010	10	Manufacture of bolts, nuts, temperable machine parts
1.0402	C22	1020	20	In parts that are generally under less force in the construction of machine, engines, vehicles and apparatus
1.0528	C30	1030	30	In parts that are generally under less force in the construction of machine, engines, vehicles and apparatus
1.0516	C35	1035	35	In parts that are generally under great force in the construction of machine, vehicles and apparatus
1.0511	C40	1040	40	In parts such as powertrain, gear transmission that are generally under great force in the construction of machine, vehicles and apparatus
1.0503	C45	1045	45	In parts such as powertrain, gear transmission that are generally under great force in the construction of machine, vehicles and apparatus
1.0540	C50	1050	50	In parts such as machine, engine axle shaft, axle that are generally under great force
1.0601	C60	1060	60	In parts such as shaft, axle, pin and etc. that are generally under great force in the construction of machine, and vehicles
1.0615	C70	1070	70	High-strength machine parts such as shafts, bolts, nuts, spirals



03 | Plastic Mold Steels .



Plastic mold steels are tool steels that are used in the shaping of plastics such materials have high corrosion resistance, polishability, and good strength, ductility, fatigue life, and wear resistance. Unlike tool steels, they also contain alloying elements such as chromium, manganese, molybdenum, nickel, vanadium, and aluminum. They are generally used in shaping plastics by injection, extrusion, blowing and pressing techniques.

Steel Grade				Chemical Composition							
Mat. No.	DIN	SAE/AISI	GOST	C %	Si %	Mn %	P max %	S %	Cr %	Mo %	Ni %
1.1730	C45W	1045	45	0.42 - 0.50	0.15 - 0.40	0.60 - 0.80	0.03	max 0.03	-	-	0.40 - 0.70
1.2083	X40Cr14	420mod.	40X13	0.36 - 0.42	max 1.00	max 1.00	0.03	max 0.03	12.50 - 14.50	-	1.40 - 1.70
1.2311	40CrMnMo7	P20	4X2TM	0.35 - 0.45	0.20 - 0.60	1.30 - 1.60	0.03	0.03	1.80 - 2.10	0.15 - 0.25	-
1.2312	40CrMnMoS8-6	P20+S	4X2Γ2M-Y	0.35 - 0.45	0.30 - 0.50	1.40 - 1.60	0.03	0.05 - 0.10	1.80 - 2.00	0.15 - 0.25	-
1.2316	X36CrMo17	420	4X16M	0.35 - 0.45	max 1.00	max 1.50	0.03	0.03	15.50 - 17.50	0.80 - 1.30	max 1.00
1.2738	40CrMnNiMo8-6-4	P20+Ni	4X2Γ2HM	0.35 - 0.45	0.20 - 0.60	1.30 - 1.60	0.03	0.03	1.80 - 2.10	0.15 - 0.25	0.90 - 1.20
1.2764	X19NiCrMo4	-	2XH4M	0.16 - 0.22	0.10 - 0.40	0.15 - 0.45	0.03	0.03	1.10 - 1.40	0.15 - 0.25	3.80 - 4.30
1.2767	X45NiCrMo4	6F7(approx.)	4X2H4MA	0.40 - 0.50	0.10 - 0.40	0.20 - 0.50	0.03	0.03	1.20 - 1.50	0.15 - 0.35	3.80 - 4.30

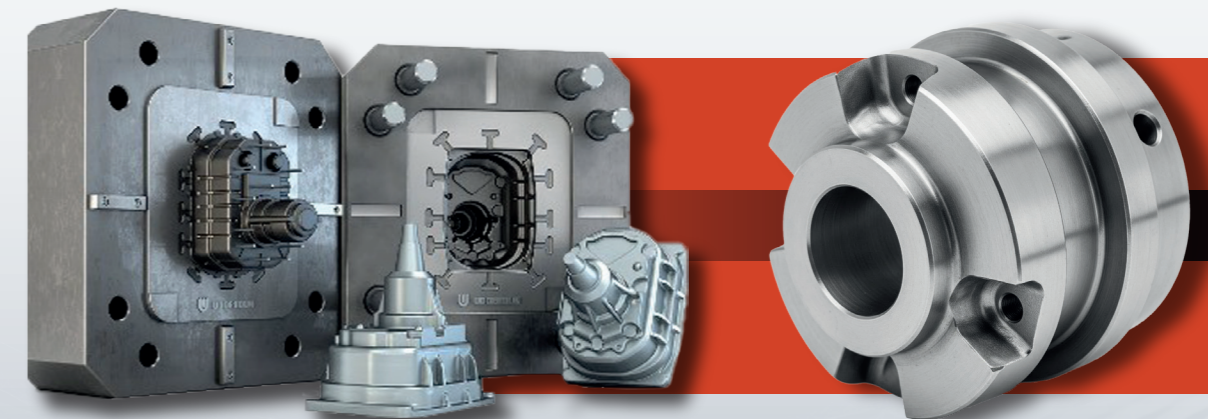
Mat. No.	DIN	SAE/AISI	GOST	Usage Areas
1.1730	C45W	1045	45	Molds that do not require a high level of polishing, parts of plastic mold components, tools, equipment and machine that do not require hardening
1.2083	X40Cr14	420mod.	40X13	In molds containing chemicals with corrosive effect
1.2311	40CrMnMo7	P20	4X2TM	In plastic injection molds, mold cases, metal injection mold holders and extrusion press sleeves
1.2312	40CrMnMoS8-6	P20+S	4X2Γ2M-Y	As a core in press tools, support plates, plastic injection molds if surface gloss is not desired.
1.2316	X36CrMo17	420	4X16M	In the molds of corrosive plastics and polymers such as PVC, as mold, mold holder and calibration block in tube drawing.
1.2738	40CrMnNiMo8-6-4	P20+Ni	4X2Γ2HM	As mold core, core and pusher in injection, extrusion, press and blow molds of plastics with good polishability and very good nitriding
1.2764	X19NiCrMo4	-	2XH4M	In high polymer molds with abrasive properties, which are under great force and whose surface will be hardened by cementation, in plastic molds under high pressure
1.2767	X45NiCrMo4	6F7(approx.)	4X2H4MA	In bending dies and patterning dies

04 |

Hot Work Tool Steels .



It is an alloyed tool steel group that enables the shaping of steel, ferrous and non-ferrous materials under high temperature conditions (200–600°C) by various methods such as injection, extrusion, forging and cutting. The main properties of hot work tool steels can be listed as high tempering resistance, high temperature strength, hot wear resistance, resistance to thermal shocks and appropriate hot ductility. Hot work tool steels, which are used in the high temperature shaping of metal-based raw materials, are a steel group that has the most usage area in today's manufacturing and mold industry.



Steel Grade				Chemical Composition								
Mat. No.	DIN	SAE/AISI	GOST	C %	Si %	Mn %	P max %	S max %	Cr %	Mo %	Ni %	Cu Max %
1.2329	X46CrSiMoV7	1008	45X2HMΦC	0.43-0.48	0.60-0.75	0.65-0.85	0.025	0.025	1.65-1.85	0.25-0.35	-	0.45-0.60
1.2343	X38CrMoV5-1	H11	4X5MΦC	0.33-0.41	0.80-1.20	0.25-0.50	0.03	0.02	4.80-5.50	1.10-1.50	-	-
1.2344	X40CrMoV5-1	H13	4X5MΦ1C	0.35-0.42	0.80-1.20	0.25-0.50	0.03	0.02	4.80-5.50	1.20-1.50	-	-
1.2365	X32CrMoV3-3	H10	3X3M3Φ	0.28-0.35	0.10-0.40	0.15-0.45	0.03	0.02	2.70-3.20	2.50-3.00	-	-
1.2367	X38CrMoV5-3	-	4X5M3Φ	0.35-0.40	0.30-0.50	0.30-0.50	0.03	0.02	4.80-5.20	2.70-3.20	-	-
1.2714	56NiCrMoV7	L6	5XH2MΦ	0.50-0.60	0.10-0.40	0.60-0.90	0.03	0.03	0.80-1.20	0.35-0.55	1.50-1.80	-

Mat. No.	DIN	SAE/AISI	GOST	Usage Areas
1.2329	X46CrSiMoV7	-	45X2HMΦC	In forging dies, casting press dies, pressure discs for extrusion, extrusion press blocks and sleeves
1.2343	X38CrMoV5-1	H11	4X5MΦC	In case of high toughness is required where 1.2344 is insufficient, especially in hot forging dies and metal injection
1.2344	X40CrMoV5-1	H13	4X5MΦ1C	In the production of plastic molds with high wear, in metal injection molds, sleeves, hot forging dies, press tools
1.2365	X32CrMoV3-3	H10	3X3M3Φ	In brass or copper sleeves, pressure shafts, punches, forging cores, injection moulding, pistons and runners, water-cooled hot shear blades, nut, bolt molds
1.2367	X38CrMoV5-3	-	4X5M3Φ	In extrusion dies of aluminum and its alloys, in forging dies, sleeves and metal injection molds
1.2714	56NiCrMoV7	L6	5XH2MΦ	As bolster in extrusion dies, in hot forging and forming dies, hot cutting blades



05

Cold Work Tool Steels .

Cold work tool steels are tool steels with a carbon content ranging from 0.3% to 2.5% and containing carbide-forming chromium, vanadium, molybdenum and tungsten as well as manganese and nickel as alloying elements. It has high initial hardness and this hardness decreases rapidly when it exceeds 200°C. For this reason, the process is used in machining and chipless shaping of work pieces operating at temperatures of approximately 200°C and below. They are generally used in drilling, cutting tools, forming, deep drawing, embossing tools, powder pressing, cold forging, etc. processes.

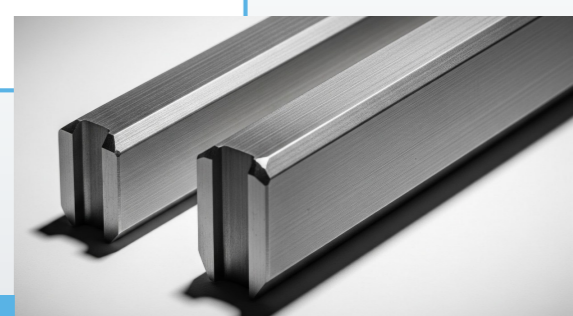
Steel Grade				Chemical Composition										
Mat. No.	DIN	SAE/AISI	GOST	C %	Si %	Mn %	P max %	S max %	Cr %	Mo %	Ni %	V %	W %	
1.2080	X210Cr12	D3	X12	1.90-2.20	0.20-0.60	0.20-0.60	0.03	0.03	11.00-13.00	-	-	-	-	
1.2363	X100CrMoV5-1	A2	95X5M	0.95-1.05	0.10-0.40	0.40-0.80	0.03	0.03	4.80-5.50	0.90-1.20	-	-	0.15	
1.2379	X155CrVMo12-1	D2	X12MΦ	1.45-1.60	0.10-0.40	0.20-0.50	0.03	0.03	11.00-13.00	0.70-1.00	-	0.70-1.00	-	
1.2436	X210CrW12	D6	X128	2.00-2.30	0.10-0.40	0.20-0.50	0.03	0.03	11.00-13.00	-	-	-	0.60-0.80	
1.2510	100MnCrW4	O1	95XΓΦ	0.90-1.05	0.10-0.40	0.30-0.50	0.03	0.03	0.50-0.70	-	0.05	-	0.50-0.70	
1.2767	X45NiCrMo4	6F7	4X2HMA	0.40-0.50	0.10-0.40	0.30-0.50	0.03	0.03	0.50-0.70	0.15-0.35	1.30-1.65	-	-	
1.2842	90MnCrV8	O2	9ΓΦ	0.85-0.95	0.10-0.40	1.80-2.20	0.03	0.03	0.20-0.50	0.05-0.25	-	0.15-0.25	-	

Steel Grade				Chemical Composition										
Mat. No.	DIN	SAE/AISI	GOST	C %	Si %	Mn %	P max %	S max %	Cr %	Mo %	Ni %	V %	W %	
1.2080	X210Cr12	D3	X12	1.90-2.20	0.20-0.60	0.20-0.60	0.03	0.03	11.00-13.00	-	-	-	-	
1.2363	X100CrMoV5-1	A2	95X5M	0.95-1.05	0.10-0.40	0.40-0.80	0.03	0.03	4.80-5.50	0.90-1.20	-	-	0.15	
1.2379	X155CrVMo12-1	D2	X12MΦ	1.45-1.60	0.10-0.40	0.20-0.50	0.03	0.03	11.00-13.00	0.70-1.00	-	0.70-1.00	-	
1.2436	X210CrW12	D6	X128	2.00-2.30	0.10-0.40	0.20-0.50	0.03	0.03	11.00-13.00	-	-	-	0.60-0.80	
1.2510	100MnCrW4	O1	95XΓΦ	0.90-1.05	0.10-0.40	0.30-0.50	0.03	0.03	0.50-0.70	-	0.05	-	0.50-0.70	
1.2767	X45NiCrMo4	6F7	4X2HMA	0.40-0.50	0.10-0.40	0.30-0.50	0.03	0.03	0.50-0.70	0.15-0.35	1.30-1.65	-	-	
1.2842	90MnCrV8	O2	9ΓΦ	0.85-0.95	0.10-0.40	1.80-2.20	0.03	0.03	0.20-0.50	0.05-0.25	-	0.15-0.25	-	

Mat. No.	DIN	SAE/AISI	GOST	Usage Areas
1.2080	X210Cr12	D3	X12	In pipe and profile molds, forming and cutting molds of thin sheets, brick and ceramic molds
1.2363	X100CrMoV5-1	A2	95X5M	In applications that require cutting, extrusion, crushing, processes such as pipe and profile spools, paper knives, mint molds
1.2379	X155CrVMo12-1	D2	X12MΦ	In plastic molds and knives that require high abrasion resistance, in metal cutting, tearing, crushing, deep drawing, plastering molds up to 6 mm and with complex cross-sections, in marking tools, rubbing dredgers, extrusion tools, spools
1.2436	X210CrW12	D6	X128	In places such as cutting dies, paper and plastic knives, deep drawing dies, plastering dies, punches, cutting knives, abrasive powders, pressing dies, profile relays of silica sheets up to 2 mm
1.2510	100MnCrW4	O1	95XΓΦ	In cutting, plastering, punching dies, knives, measuring tools, plastic injection molds, mold closing plates, mold support plates
1.2767	X45NiCrMo4	6F7	4X2HMA	In patterning, sheet cutting and pressing tools
1.2842	90MnCrV8	O2	9ΓΦ	In rubbing dredgers, cutting and pressing dies, screw dredgers, guide pins, drawing knives, cutting knives, measuring tools

06 | High Speed Steels .

High speed steels are materials that can be machined even at high cutting speeds and can maintain their hardness at high temperatures for a long time. In order to gain these properties, it is necessary to add alloying elements in appropriate proportions and to provide appropriate heat treatment conditions. High speed steels are used as cutting tool material due to their high hardness and high shock resistance and good performance at room and high temperatures.



Steel Grade				Chemical Composition										
Mat. No.	DIN	SAE/AISI	GOST	C %	Si %	Mn %	P max %	S max %	Cr %	Mo %	W %	V %	Co %	
1.3243	S6-5-2-5	M35	P6M5K5	0.87-0.95	0.45	0.40	0.03	0.03	3.80-4.50	4.70-5.20	5.90-6.70	1.70-2.10	4.50-5.00	
1.3343	S6-5-2	M2	P6M5	0.86-0.94	0.45	0.40	0.03	0.03	3.80-4.50	4.70-5.20	5.90-6.70	1.70-2.10	-	

Mat. No.	DIN	SAE/AISI	GOST	Usage Areas
1.3243	S6-5-2-5	M35	P6M5K5	Unlike 1.3343, it is especially preferred in high-speed cutting operations because it contains Co. In all milling cutters where high efficiency is required, in drills exposed to high stresses, in shear blades and profile cutters.
1.3343	S6-5-2	M2	P6M5	It is used in the manufacture of all milling cutters, guides, reamers, drill bits used in drilling, in circular saws, broaching tools, narrow-waisted cutters, in various cutting tools such as milling cutters and planer knives suitable for woodworking, as matrix, stapler and inflator used in the manufacture of bolts and nuts that provide cold forming.





07

Stainless Mold Steels .

They are defined as iron-based alloys containing at least 10.5% (by weight) chromium (Cr) among stainless steels. They are steels that can show very high resistance to corrosion in all kinds of environments. Stainless Steels are used in kitchen equipment, boat manufacturing, power plant production, industrial machine parts, car parts, aviation and space industry, building interior and exterior, reinforcing bars, accessories, machine parts and in almost all areas that we can encounter in our daily life.



Steel Grade				Chemical Composition									
Mat. No.	DIN	SAE/AISI	GOST	C %	Si %	Mn %	P max %	S max %	Cr %	Mo %	Ni %	V %	W %
1.2083	X40Cr14	420mod	40X13Φ-III	0.36-0.42	1.00	1.00	0.030	0.030	12.50-14.50	-	-	-	-
1.2316	X36CrMo17	422	4X16M	0.33-0.45	1.00	1.50	0.030	0.030	15.50-17.50	0.80-1.30	Max1.00	0.15-0.35	-
1.4034	X46Cr13	420	4X13	0.43-0.50	1.00	1.00	0.045	0.015	12.50-14.50	-	-	0.70-1.00	-
1.4057	X17CrNi16-2	431	17X16H2 / 20X17H2	0.12-0.22	1.00	1.50	0.045	0.030	15.00-17.00	-	1.50-2.50	-	-
1.4112	X90CrMoV18	1.4112-ESU	90X18MΦ-III	0.85-0.95	1.00	1.00	0.045	0.030	17.00-19.00	0.90-1.30	0.05-0.15	0.05-0.15	V0.07-0.12
1.4125	X105CrMo17	440C	95X18	0.95-1.20	1.00	1.00	0.045	0.030	16.00-18.00	0.40-0.80	-	-	-
1.4404	X2CrNiMo17-13-2	316L	03X17H12M2	max 3.00	1.00	2.00	0.045	0.015	16.50-18.50	2.00-2.50	10.00-13.00	-	Nmax0.11
1.4542	X5CrNiCuNb16-4	630	07X16H4ДБ	max 0.07	0.70	1.50	0.045	0.015	15.00-17.00	max 0.06	3.00-5.00	-	Nbmax0.45 Cu3.00-5.00



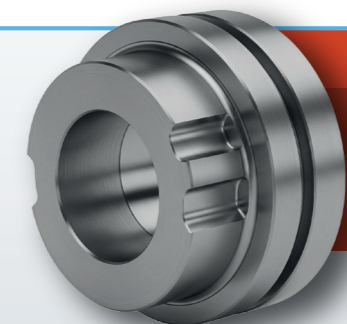
Mat. No.	DIN	SAE/AISI	GOST	Usage Areas
1.2083	X40Cr14	420mod	40X13Φ-III	In the production of plastic raw materials with corrosion effect and in molds where specular gloss is desired.
1.2316	X36CrMo17	422	4X16M	In general machinery, shipbuilding, chemicals, pump and compressor shafts, surgical hand tools with or without clutters, cutting tools such as knives.
1.4034	X46Cr13	420	4X13	In knives, scissors, grader blades, wear-resistant components, roller bearings, bridge supports, frictiongenerated mold accessories, medical implants.
1.4057	X17CrNi16-2	431	17X16H2 / 20X17H2	In bolt and nut making, propeller and pump shafts, marine equipment, mixer rods and laboratory equipment.
1.4112	X90CrMoV18	1.4112-ESU	90X18MΦ-III	In the manufacture of all kinds of cutting tools that require corrosion resistance, bearings, gauges, molds, pump components, blades and measuring instruments.
1.4125	X105CrMo17	440C	95X18	In active elements and mold elements in plastic processing, chemically aggressive press masses, surgical tools.
1.4404	X2CrNiMo17-13-2	316L	03X17H12M2	In tanks and storage boilers of corrosive liquids, chemical and petrochemical industry, steam boilers, food devices, mining.
1.4542	X5CrNiCuNb16-4	630	07X16H4ДБ	In shafts and valve shafts, petro-chemical industry, kitchen appliances, chemical plants, stainless steel fasteners in materials and defense industry.

08

Case-Hardening Steels .



Case-hardening steels are low carbon, unalloyed or alloyed steels used in the manufacture of parts resistant to variable and impact stresses, where properties such as surface hardness and wear-resistant are desired, and softer and tougher properties in the core. Gaining these properties to the part is achieved by impregnating the steel surface with carbon. Case-hardening steels are used in forced parts, machinery and automobiles, gear wheels, pins, shafts, shaft sleeves, piston pins shaped by cold blowing and spouting, chain links and similar parts.



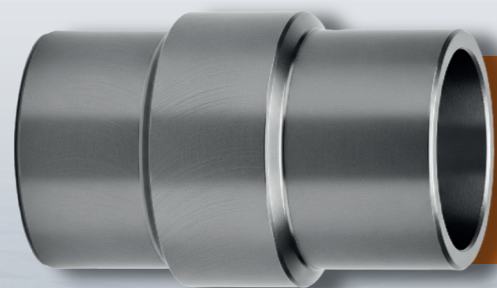
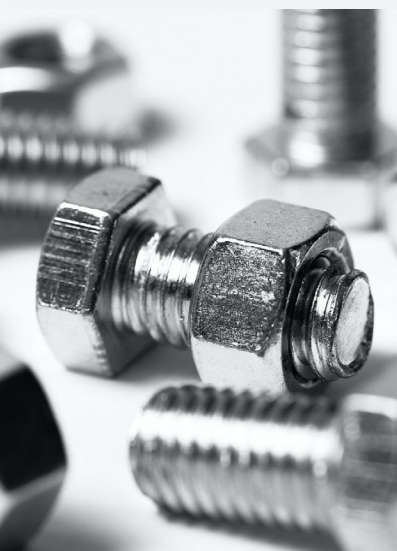
Steel Grade				Chemical Composition							
Mat. No.	DIN	SAE/AISI	GOST	C %	Si %	Mn %	P max %	S max %	Cr %	Mo%	Ni%
1.0301	C10	1010	10	0.07-0.13	max 0.04	0.30-0.60	0.045	max 0.045	-	-	-
1.5920	18CrNi8	-	-	0.15-0.20	0.15-0.40	0.40-0.60	0.035	max 0.035	1.80-2.10	-	1.80-2.10
1.6587	17NiCrMo6	-	17X2H2M	0.14-0.21	max 0.04	0.50-0.90	0.035	max 0.035	1.50-1.80	0.25-0.35	1.40-1.70
1.6523	21NiCrMo2	8620	20XHM	0.17-0.23	max 0.04	0.60-0.95	0.035	max 0.04	0.35-0.70	0.15-0.25	0.40-0.70
1.7131	16MnCr5	5115	16XГ	0.14-0.19	max 0.04	1.00-1.30	0.035	max 0.035	0.80-1.10	-	-
1.7139	16MnCrS5	-	15XГ-Y	0.14-0.19	max 0.04	1.00-1.30	0.035	0.020-0.040	0.80-1.10	-	-
1.7147	20MnCr5	5120	20XГ	0.17-0.22	max 0.04	0.60-0.90	0.035	0.020-0.035	1.00-1.30	-	-
1.7149	20MnCrS5	-	20XГ-Y	0.17-0.22	max 0.04	1.10-1.40	0.035	0.020-0.040	1.00-1.30	-	-
1.7323	20MoCrS4	-	20XГM-Y	0.17-0.22	max 0.04	0.60-0.90	0.035	0.020-0.040	0.30-0.50	0.40-0.50	-
1.7326	25MoCrS4	-	-	0.23-0.29	0.15-0.40	0.60-0.90	0.035	0.020-0.040	0.40-0.60	0.40-0.50	-

Mat. No.	DIN	SAE/AISI	GOST	Usage Areas
1.0301	C10	1010	10	In structural and machine parts with low core strength and medium stress.
1.5920	18CrNi8	-	-	In highly stressed transmission parts such as thick-section gear wheels, plate gears and drive parts.
1.6587	17NiCrMo6	-	17X2H2M	In highly stressed transmission parts such as thick-section gear wheels, plate gears and drive parts.
1.6523	21NiCrMo2	8620	20XHM	In gear wheels, pins, shafts, shaft sleeves and similar parts in machines and automobiles that are under high stress.
1.7131	16MnCr5	5115	16XГ	In gear wheels, transmission parts, cardan bearings, shaft, pin, bushing and similar parts.
1.7139	16MnCrS5	-	15XГ-Y	In 1.7131 materials with improved machining properties with the addition of sulfur.
1.7147	20MnCr5	5120	20XГ	In transmission parts, gear wheels, plates and bevel gears, thick-section shafts, pins, bushings and similar parts.
1.7149	20MnCrS5	-	20XГ-Y	In structural and machine parts with low core strength and medium stress.
1.7323	20MoCrS4	-	20XГM-Y	In highly stressed transmission parts such as thick-section gear wheels, plate gears and drive parts.
1.7326	25MoCrS4	-	-	In parts subject to excessive wear, such as highly stressed transmission parts, thick-section impellers, etc.



09 | Free Machining Steel .

Free machining steels are steels with low machining costs, as the chips are usually broken in the rapid chipping process. Due to their easy machinability properties, these steels are most suitable for chip removal operations such as longitudinal and face turning, thread cutting, drilling and reaming in revolver or multi-spindle turning lathes. Free machining steels are used in all kinds of connection equipment of the automotive industry, in the construction industry, in the white goods industry, in parts of machinery equipment, furniture, construction elements and precision machinery parts.



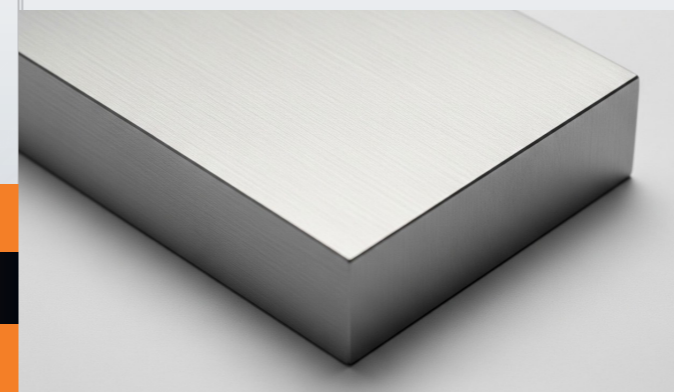
Steel Grade					Chemical Composition					
Mat. No.	DIN (Old)	DIN (New)	SAE/AISI	GOST	C max%	Si max%	Mn%	P%	S%	Pb%
1.0715	95Mn28	11SMn30	1213	-	0.14	0.05	0.90-1.30	0.11	0.27-0.33	-
1.0718	95MnPb28	11SMnPb30	12L13	AC14 (near)	0.14	0.05	0.90-1.30	0.11	0.27-0.33	0.20-0.35
1.0736	95Mn36	11SMn37	1215	-	0.14	0.05	1.00-1.50	0.11	0.34-0.40	-
1.0737	95MnPb36	11SMnPb37	12L14	AC14 (near)	0.14	0.05	1.00-1.50	0.11	0.34-0.40	0.20-0.35

Mat. No.	DIN (Old)	DIN (New)	SAE/AISI	GOST	Usage Area
1.0715	95Mn28	11SMn30	1213	-	In automotive industry, in mass production as high-strength free machining steel in device and apparatus construction.
1.0718	95MnPb28	11SMnPb30	12L13	AC14 (near)	In automotive industry, in mass production as high-strength free machining steel in device and apparatus construction.
1.0736	95Mn36	11SMn37	1215	-	In the automotive industry, in device apparatus and machine construction, in serial parts that require case-hardening.
1.0737	95MnPb36	11SMnPb37	12L14	AC14 (near)	In the automotive industry, in device apparatus and machine construction, in serial parts that require case-hardening.

10 | Nitriding Steel .

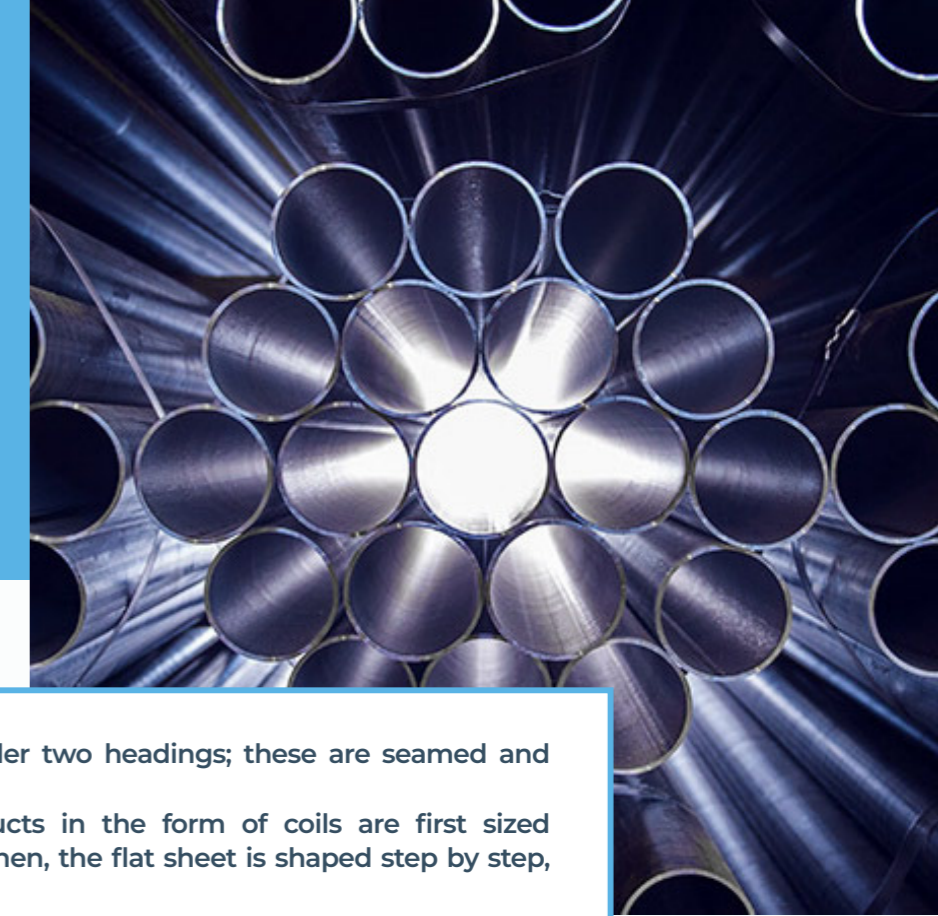
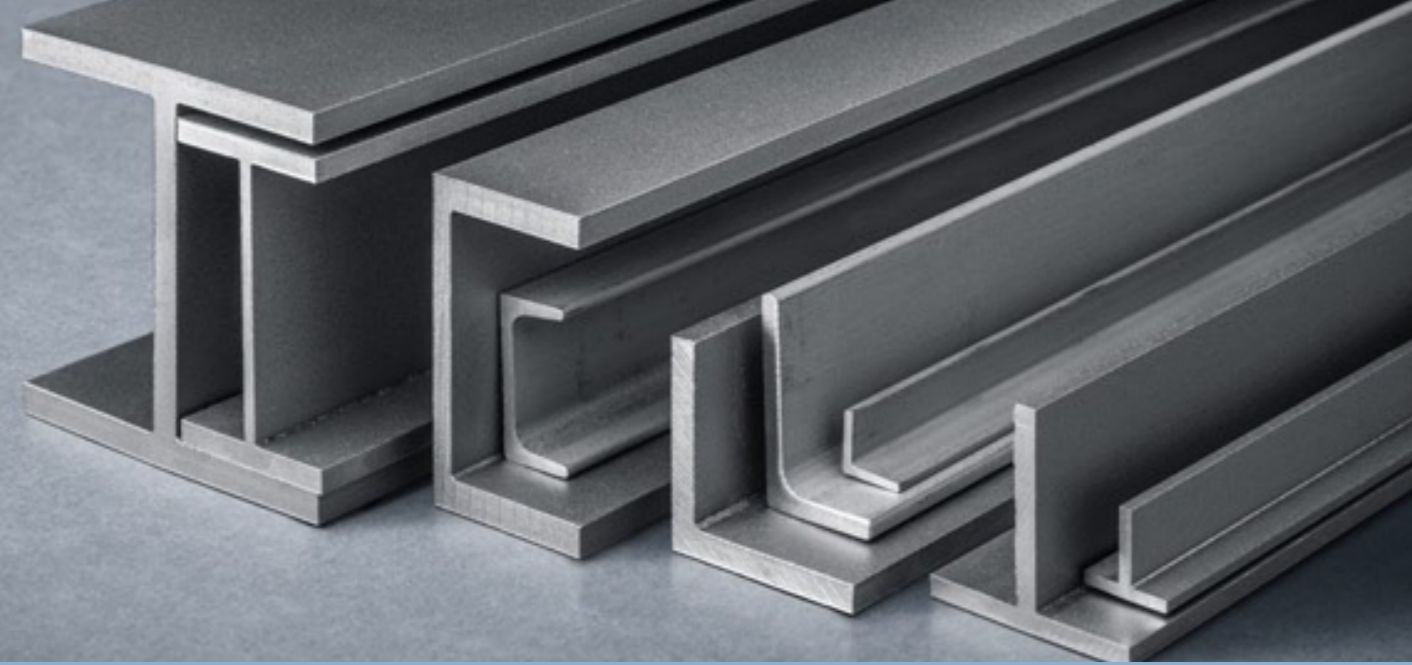


Nitration steels are steels with a fine grained structure, whose surfaces are impregnated with nitrogen (N) by heat treatment. Nitration steels contain alloying elements with high nitrogen (N) affinity such as Al, Cr, Mo and V. Nitrogen (N) and Al, Cr, Mo, V create a metal nitride layer up to a certain depth on the material surface, increasing the abrasion resistance of the material to very high levels during the nitration heat treatment stage. Nitration steels are generally preferred where high wear resistance, high fatigue strength and high corrosion resistance are required. Nitration steels are used in screws and sleeves of plastic extrusion machines, in gears and shafts, especially in heavy machinery parts such as piston rod, plunger and ball screw in large dimensions and cross-sections, and as a spiral and cylinder in plastic injection machines.



Steel Grade				Chemical Composition								
Mat. No.	DIN	SAE/AISI	GOST	C %	Si %	Mn %	P max %	S max %	Cr %	Mo %	Ni %	Al %
1.8509	41CrAlMo7-10	-	38X2M10A	0.38-0.45	0.40	0.40-0.70	0.025	0.035	1.50-1.80	0.20-0.35	-	0.80-1.00
1.8550	34CrAlNi7-10	-	34X2HM10	0.30-0.37	0.40	0.40-0.70	0.025	0.035	1.50-1.80	0.15-0.25	1.80-2.10	0.80-1.20

Mat. No.	DIN	SAE/AISI	GOST	Usage Area
1.8509	41CrAlMo7-10	-	38X2M10A	In plastic injection shafts, gears, machine parts
1.8550	34CrAlNi7-10	-	34X2HM10	It is generally used in screw and sleeve parts of plastic injection machines, injection shafts, machine parts and gears.



12 | Steel Pipes .

11 | Structural Steels .



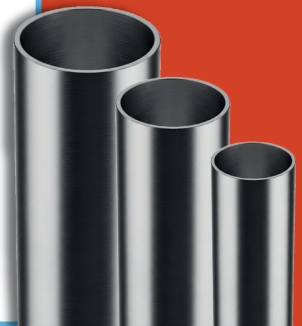
Hot formed steels containing manganese (Mn), silicon (Si), copper (Cu) and sulfur (S) elements originating from production raw materials and production method, especially phosphorus (P) and nitrogen (N). Normalized and sometimes cold drawn steels used in industrial and structural applications, especially considering their tensile strength and yield points, which do not contain alloy elements with low carbon content, are called 'Structural Steels'. Structural steels can be divided into different subgroups as hot formed (thermomechanical processed), cold drawn, normalized, fine grained, weldable, corrosion resistant improved, quenched and tempered high yield strength steels. Structural steels have a wide usage area in the manufacturing and construction industry as low carbon content, unalloyed rolling and normalization rolling plates. The most important manufacturing methods applied to these steels are cutting, machining, cold-hot deformation and welding.

possible to examine steel pipes under two headings; these are seamed and seamless (drawn) pipes.

Seamed Pipes: Semi-finished products in the form of coils are first sized according to the desired pipe size. Then, the flat sheet is shaped step by step, first semilunar and then a full circle.

After the circle is completed, welding is performed similar to the movement of the sewing machine, and joining is performed from one end to the other. Pressure values are low as welding is used in its production. The Seamed Pipes: Semi-finished products in the form of coils are first sized according to the desired pipe size. Then, the flat sheet is shaped step by step, first semilunar and then a full circle.

After the circle is completed, welding is performed similar to the movement of the sewing machine, and joining is performed from one end to the other. Pressure values are low as welding is used in its production. The wall thickness and diameter range, completing its production. It is more resistant to pressure because it is poured in one piece and does not contain seams. It is especially preferred where the pressure is high.



Mat. No.	DIN (Old)	DIN (New)	SAE/AISI	GOST	Usage Area
1.0038	St37-2	S235JR	A283C	Cr3nc Cr3cn	In the construction and industry sector, in manufacturing of bar, box section and hot rolled industrial profiles.
1.0116	St37-3	S235J2G3	A284Gr.D	Cr3cn / Cr3kn Cr3nc	In the construction industry, in the production of seamed - seamless (drawn) pipes, materials for which brightness is desired, materials with flat surfaces.
1.0044	St44-2	S275JR	A283DA529Gr.D	Cr4nc Cr4cn	In the construction and industry sector, in the production of high-strength hot-drawn industrial profiles.
1.0143	St44-3	S275J0	A578Gr.70	Cr4nc Cr4cn	In the construction and industry sector, in the production of high-strength hot-drawn industrial profiles.
1.0553	St52-3	S355J0	A441 A633	17Fc 17F1C	In cases where strength is required in the industry and construction sector.
1.0050	St50-2	E295	A570Gr.50	Cr5nc Cr5cn	In the manufacture of molds, levers and press pads, usually under loads subjected to compression stress.
1.0060	St60-2	E335	-	Cr6nc Cr6cn	In applications such as gear wheels, machine elements that require high strength.
1.0070	St70-2	E360	-	375	Machine elements such as special bolts, wedges and rivets that require high strength.

Steel Grade					Chemical Composition					
Mat. No.	DIN (Old)	DIN (New)	SAE/AISI	GOST	C%	Mn%	P max%	S max%	N max%	Al%
1.0038	St37-2	S235JR	A283C	Cr3nc Cr3cn	0.17	1.40	0.045	0.045	0.009	-
1.0116	St37-3	S235J2G3	A284Gr.D	Cr3cn / Cr3kn Cr3nc	0.17	1.40	0.035	0.035	-	-
1.0044	St44-2	S275JR	A283DA529Gr.D	Cr4nc Cr4cn	0.21	1.50	0.045	0.045	0.009	0.020
1.0143	St44-3	S275J0	A578Gr.70	Cr4nc Cr4cn	0.20	1.50	0.040	0.040	0.009	-
1.0553	St52-3	S355J0	A441 A633	17Fc 17F1C	0.20	1.60	0.040	0.040	0.009	0.020
1.0050	St50-2	E295	A570Gr.50	Cr5nc Cr5cn	0.30ort	-	0.045	0.045	0.009	0.020
1.0060	St60-2	E335	-	Cr6nc Cr6cn	0.40ort	-	0.045	0.045	0.012	-
1.0070	St70-2	E360	-	375	0.50ort	-	0.045	0.045	0.012	-

Steel Grade					Chemical Composition						
Mat.No.	DIN(old)	DIN(new)	SAE/AISI	GOST	C%	Si %	Mn Max %	P max %	S max %	N %	Other %
1. 0038	St37.2	S235JR	A283C	Cr3nc Cr3cn	0.17	-	1.40	0.045	0.045	0.009	-
1. 0044	St44-2	S275JR	A283DA529 Gr.D	Cr4nc Cr4cn	0.21	-	1.50	0.045	0.045	0.009	-
1. 0553	St52.3	S355J0	A441 A633	171C 1711C	0.20	-	1.60	0.040	0.040	0.009	Al max 0.020
1. 0503	-	C45	1045	45	0.42 - 0.50	0.40	0.50- 0.80	0.045	0.045	-	-
1. 7225	-	42CrMo4	4140	42XM	0.38 - 0.45	0.40	0.50- 0.80	0.035	0.035	-	Cr 0.90-1.20 Mo0.15- 0.30

Mat.No.	DIN(old)	DIN(new)	SAE/AISI	GOST	Usage Areas
1. 0038	St37.2	S235JR	A283C	Cr3nc Cr3cn	In automotive and automotive supply industry, mechanical systems, white goods, bicycles, furniture, steelwork, textiles, electrical appliances, building scaffolding, steel constructions in the formwork system, agricultural sector (greenhouse) for irrigation purposes and roof systems.
1. 0044	St44-2	S275JR	A283DA529 Gr.D	Cr4nc Cr4cn	In automotive and automotive supply industry, mechanical systems, white goods, bicycles, furniture, steelwork, textiles, electrical appliances, building scaffolding, steel constructions in the formwork system, agricultural sector (greenhouse) for irrigation purposes and roof systems.
1. 0553	St52.3	S355J0	A441 A633	171C 1711C	In automotive industry, mechanical systems, hydraulic systems, steel constructions, wagon manufacturing industry and agricultural tools industry, as a body in the manufacture of high pressure resistant tubes in which pressurized gases (CO2, O2, N2, etc) and the extinguishing chemicals are stored.
1. 0503	-	C45	1045	45	In mechanical and engineering applications, machinery manufacturing, pipelines, hydraulic cylinders and systems, tank construction and appaloosa.
1. 7225	-	42CrMo4	4140	42XM	In aviation, medical, special architectural applications and defense industry, General engineering boiler pipe, electrical transmission tower projects, water, oil and gas pipeline engineering, mechanical industry, municipal projects, roads and auxiliary facilities, crane arms, bushings, conveyor rollers, hollow shafts and nuts.



13

Wear resistance steel

Wear-resistant steel

(often abbreviated as WRS or AR steel for abrasion-resistant steel) is a type of high-strength, high-hardness steel designed to withstand extreme abrasion, impact, and wear in harsh environments. It is commonly used in industries like mining, construction, agriculture, and material handling where components are subjected to constant friction and wear.

Applications of Wear-Resistant Steel:

- * Mining & Quarrying: Shovel buckets, crusher jaws, dump truck liners.
- * Construction: Bulldozer blades, excavator teeth, concrete mixer liners.
- * Agriculture: Plow blades, harvester parts, tillage tools.
- * Material Handling: Conveyor belts, hoppers, chutes.
- * Recycling & Waste Processing: Shredder hammers, sorting equipment.

Tricon®

Cost-effective, high-performance wear-resistant steel.

- Excellent hardness (up to 500 HBW) with superior weldability and machinability.
- Ideal for applications like dump liners, crushers, and earth-moving equipment.



Why you use ?

- Extended service life in abrasive environments
- Reduced downtime & maintenance costs
- Custom cutting & fabrication available

Hardox®

Premium abrasion-resistant steel for extreme wear conditions.

- Available in various grades (Hardox 400, 450, 500, 550, 600) with hardness up to 600 HBW.
- High impact resistance, weldability, and durability for mining, construction, and material handling.

Chemical Composition (heat analysis)

Hardox	Product type	C *(Max%)	Si *(max %)	Mn*(max %)	P (max %)	S (max %)	Cr *(max%)	Ni*(max%)	Mo*(max%)	B*(max%)
400	-	0.32	0.70	1.60	0.025	0.010	2.50	1.50	0.60	0.004
450	CR sheet	0.19	0.30	1.50	0.020	0.005	0.10	0.10	0.05	0.004
450	Sheet & plate	0.26	0.70	1.60	0.025	0.010	1.40	1.50	0.60	0.005
500 TUF	-	0.30	0.70	1.60	0.020	0.010	1.50	1.50	0.60	0.005
500	Sheet	0.27	0.50	1.60	0.025	0.010	1.20	0.25	0.25	0.005

500	Plate	0.30	0.40	1.30	0.020	0.010	2.20	2.0	0.40	0.005
550	-	0.44	0.50	1.30	0.020	0.010	1.40	1.40	0.60	0.004
600	Sheet	0.40	0.50	1.0	0.015	0.010	1.20	1.50	0.60	—
600	Plate	0.47	0.70	1.50	0.015	0.010	1.20	2.50	0.70	0.005

Comparison to Other Steels:

Property	Wear-Resistant Steel	Mild Steel	Tool Steel	Stainless Steel
Hardness	Very High (400-600 BHN)	Low (120-180 BHN)	High (HRC 50-65)	Moderate (200-300 BHN)
Wear Resistance	Excellent	Poor	Good (depends on grade)	Moderate
Toughness	Good (impact-resistant)	High	Low (brittle)	Moderate
Corrosion Resistance	Low (unless coated)	Low	low	high

Chemical Composition (heat analysis)

Hardox®	Product type	C *(Max%)	Si *(max %)	Mn*(max %)	P (max %)	S (max %)	Cr *(max%)	Ni*(max%)	Mo*(max%)	B*(max%)
Extreme	—	0.47	0.50	1.40	0.015	0.010	1.20	2.50	0.80	0.005
HiTuf	—	0.20	0.60	1.60	0.050	0.020	0.70	2.0	0.70	0.005
HiAce	Sheet	0.18	0.40	0.50	0.025	0.004	4.30	0.20	0.20	0.002
	Plate	0.26	0.70	1.60	0.025	0.010	5.10	1.50	0.60	0.005
HiTemp	—	0.25	0.70	1.60	0.025	0.010	1.40	1.50	1.50	0.004
Round bar	Hardox 400	0.32	0.70	1.60	0.025	0.010	2.50	1.50	0.60	0.004
	Hardox 500	0.30	0.40	1.30	0.020	0.010	2.80	2.0	0.40	0.005
Tubes & Pipes	—	0.30	0.70	1.60	0.020	0.010	1.50	1.50	0.60	0.005



14 | Aluminium Alloys .



Engineered for strength, durability, and lightweight performance aluminium alloys are essential across industries. Known for their excellent corrosion resistance, machinability, and thermal conductivity, they are ideal for automotive, aerospace, and precision manufacturing.

We offer a wide range of grades and forms tailored for structural components and high-performance applications, ensuring consistency, reliability, and superior surface finish.

services (cast)	Main Alloying Elements	Main Characters	Example Application
1 xxx	~ 99% Pure aluminum	High electrical and thermal conductivity, excellent corrosion resistance.	Electrical rotors, food processors .
2 xxx	Copper and magnesium	High strength but low corrosion resistance.	Cylinder heads, pistons, housings, and bearings .
3 xxx	Silicon, Copper and/ or magnesium	High strength and wear resistance. Good corrosion resistance	Engine parts, structural parts, marine and aircraft castings .
4 xxx	Silicon	Moderate strength, high ductility, and good impact resistance.	Bridge railing supports, dental equipment, and cookware .
5 xxx	magnesium	Moderate-to-high strength, high corrosion resistance, good machinability, and attractive appearance.	Architectural and ornamental castings, welded assemblies .
7 xxx	Zinc	Good finish and corrosion resistance, high strength at proper tempe .	Automotive parts, mining equipment, aircraft fittings .
8 xxx	Tin	Low friction	Bearings, bushings, bi-metal slides .

15 |

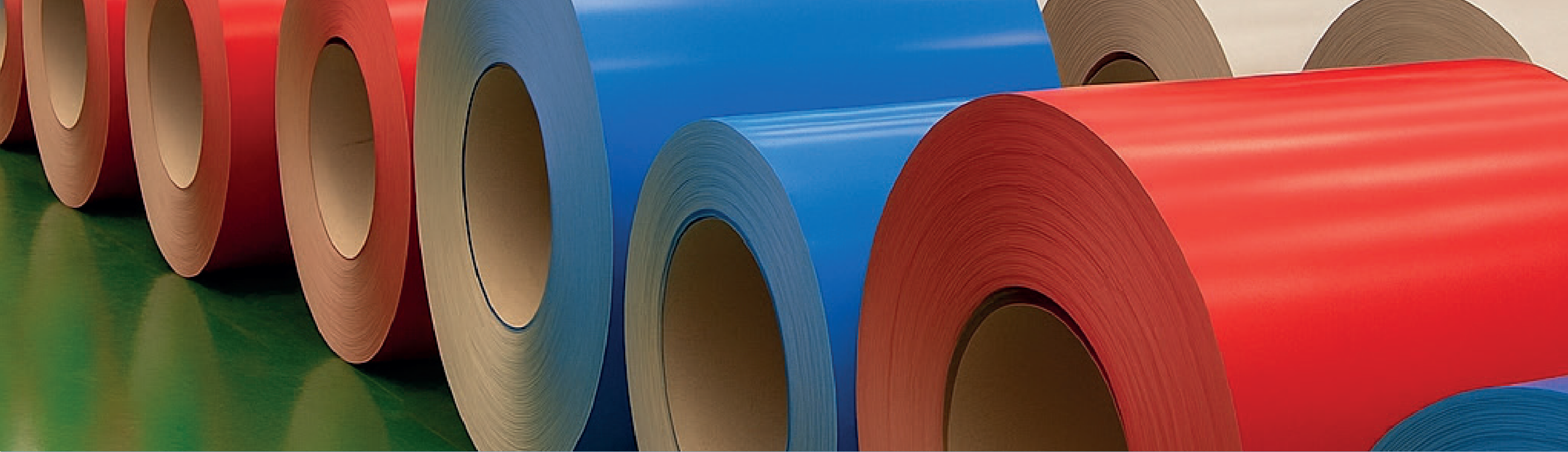
Stainless Steel .



Stainless steel is a corrosion-resistant alloy of iron, chromium, and other elements. It offers excellent strength, durability, and resistance to rust, making it ideal for both structural and aesthetic applications. Its clean surface finish and hygienic properties make it widely used in industries like construction, automotive, medical, and food



Alloy Family	Key Grades	Chemical Composition (wt%)	Key Properties	Primary Applications
Austenitic (Nonmagnetic, High Corrosion Resistance)	304 (1.4301)	Cr: 18-20%, Ni: 9-10.5%, C: ≤0.08%, Mn: ≤2%, Si: ≤1%	Excellent corrosion resistance, formability, weldability .	Food processing, kitchenware, chemical tanks .
	316 (1.4401)	Cr: 16-18%, Ni: 10-14%, Mo: 2-3%, C: ≤0.08%	Superior pitting resistance (due to Mo) .	Marine equipment, medical implants, pharmaceuticals .
	321 (1.4541)	Cr: 17-19%, Ni: 9-12%, Ti: 5<C%	Stabilized against sensitization (Ti prevents Crdepletion)	Aircraft exhaust, high-temp applications .
Ferritic (Magnetic, Moderate Corrosion Resistance)	430 (1.4016)	Cr: 16-18%, C: ≤0.12%, Mn: ≤1%	Lower cost, moderate corrosion resistance .	Automotive trim, appliances, decorative parts .
	444 (1.4521)	Cr: 17-20%, Mo: 1.75-2.5%, Nb/Ti stabilized	Improved pitting resistance vs. 430	Heat exchangers, water tanks .
Martensitic (Magnetic, Heat-Treatable)	410 (1.4006)	Cr: 11.5-13.5%, C: 0.08-0.15%	Hardenable by heat treatment	Cutlery, valves pump shafts .
	420 (1.4021)	Cr: 12-14%, C: 0.15-0.40%	Higher hardness than 410	Surgical instruments, blades .
Duplex (Mixed Austenite - Ferrite, High Strength)	2205 (1.4462)	Cr: 21-23%, Ni: 4.5-6.5%, Mo: 2.5-3.5%, N: 0.14-0.2%	2x yield strength of 316, excellent chloride resistance	Offshore oil rigs, desalination plants .
	2507 (1.4410)	Cr: 24-26%, Ni: 6-8%, Mo: 3-4%, N: 0.24-0.32%	Superior to 2205 in extreme environments	Chemical processing, subsea pipelines .
Precipitation-Hardening (PH) (High Strength + Corrosion Resistance)	17-4PH (1.4542)	Cr: 15-17.5%, Ni: 3-5%, Cu: 3-5%, Nb: 0.15-0.45%	Agehardenable, high strength-toweight	Aerospace, nuclear, turbine blades .
	15-5PH (1.4545)	Similar to 17-4PH, but with lower C + added TiV	Improved toughness over 17-4PH	Military aircraft components



16 | PPGI & PPGL

PPGI (Pre-Painted Galvanized Iron) & PPGL (Pre-Painted Galvanized Steel)

PPGI and PPGL are pre-painted metal sheets with a protective zinc coating (galvanized) and a colored paint layer applied during manufacturing. They are widely used in construction, appliances, and industrial applications due to their durability, corrosion resistance, and aesthetic appeal.

Key Differences Between PPGI & PPGL

Feature PPGI (Pre-Painted Galvanized Iron) PPGL (Pre-Painted Galvanized Steel)
Base Material Mild iron (lower carbon content) Steel (higher strength, carbon content)
Strength Moderate Higher (better for structural use)
Common Uses Roofing, wall panels, appliances Heavier-duty construction, automotive parts
Corrosion Resistance Good (depends on coating) Slightly better due to steel base
Cost Generally cheaper Slightly more expensive.

Structure of PPGI/PPGL

A typical pre-painted sheet has the following layers:

1. Base Metal – Cold-rolled steel (SPCC) or galvanized iron (GI).
2. Zinc Coating (Galvanization) – Hot-dip galvanized (GI) or electro-galvanized (EG).
3. Chemical Treatment (Passivation) – Enhances paint adhesion.
4. Primer Coating – Improves corrosion resistance.
5. Top Paint Layer – Polyester (PE), PVDF, or silicone-modified polyester (SMP).
6. Protective Film (Optional) – Prevents scratches during transport.

Standards & Grades

- Galvanization Standards: ASTM A653 (GI), JISG3302, EN 10346.
- Common Thickness: 0.2mm to 1.5mm.
- Common Coating Weights:
 - Zinc Coating: 60g/m² to 275g/m² (Z60 to Z275).
 - Paint Thickness: 15-25µm per side.

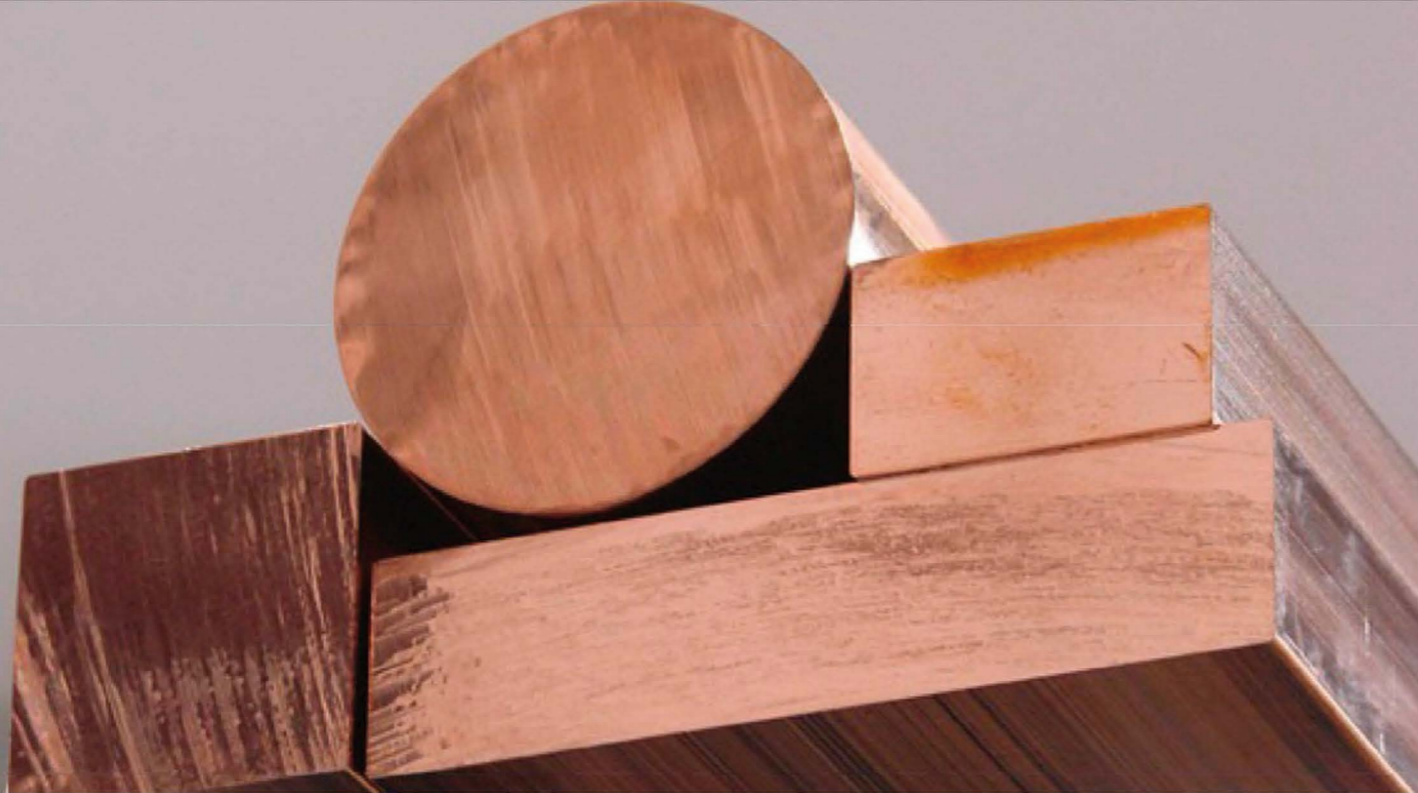
Types of Paint Coatings Used

Coating Type Features Best For :

- Polyester (PE) Economical, good color retention Indoor applications, roofing .
- PVDF (Polyvinylidene Fluoride) Superior weather resistance, UV protection Outdoor, harsh environments .
- SMP (Silicone Modified Polyester) Better durability than PE , mid-range cost Moderate outdoor exposure .

Common Applications

- Construction: Roofing, wall cladding, sandwich panels .
- Home Appliances: Refrigerators, washing machines, ovens.
- Automotive: Body panels, truck trailers.
- Furniture & Decoration: Cabinets, partitions, signage.



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17 | Copper Alloys

In the industry, copper is used in pure form as well as in alloys with various materials.

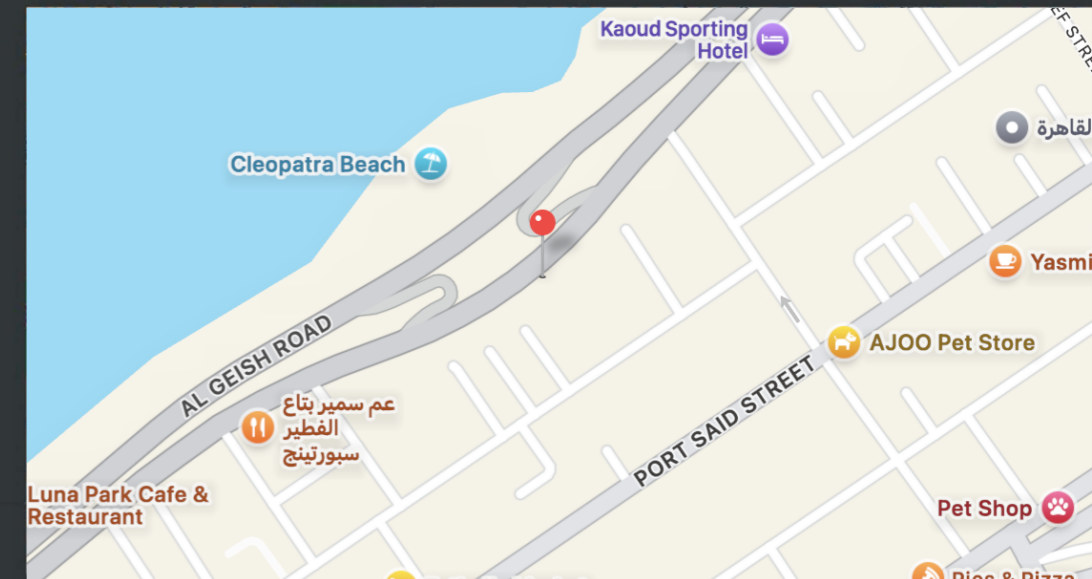
Copper alloys are metal alloys that contain copper as their main component. They show high resistance to corrosion and are alloys with very high thermal conductivity and can be polished very well.

Generally, copper alloys have good electrical and thermal conductivity, durability, excellent corrosion resistance, are used in casting molds and plastic mold industry.

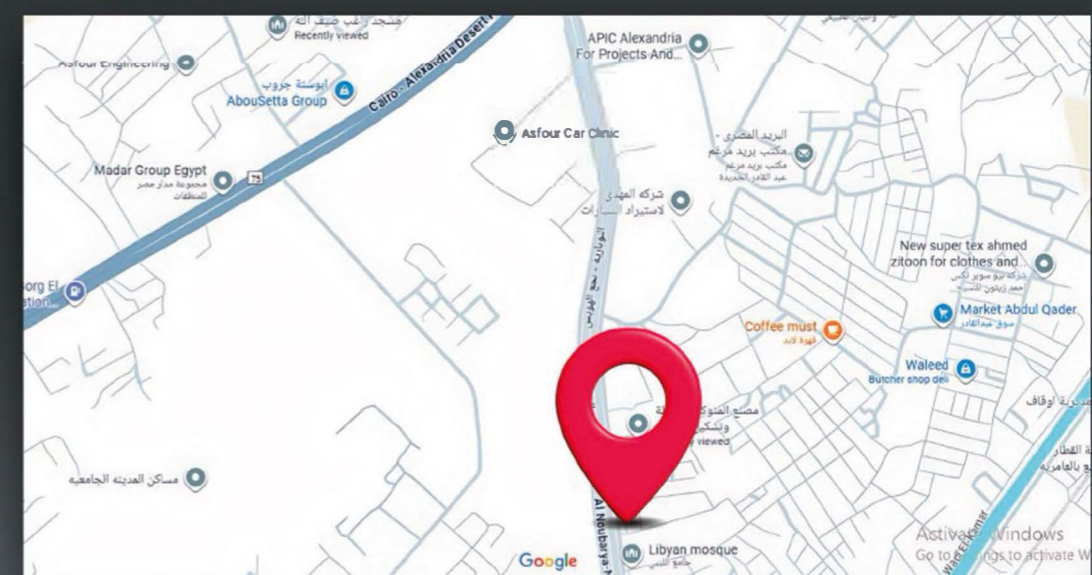
Steel Grade				Chemical Composition											
Mat.No.	DIN	ASTM	GOST	Cr%	Zr%	Fe Max %	Si %	Mn Max%	Pb max%	N%	C%	B%	Others max%	Cu%	
CuCrZr	2128	C18150	Epixylic	0.03 - 0.10	0.03 - 0.05	0.05	Max 0.05	-	0.05	-	-	-	0.10	Rest	
CuCo2Be	21285	C17500	-	-	-	0.20	-	-	-	max 0.30	max 0.30	0.40-0.70	0.50	Rest	
CuCoNiBe	21285	C17510	-	-	-	-	-	-	-	0.80-1.30	0.80-1.30	0.40-0.70	0.20	Rest	
CuNi2SiCr	20855	C18100	-	0.20-0.50	-	0.15	0.50-0.80	0.10	0.02	2.00-3.00	2.00-3.00	-	-	Rest	
CuBe2	21247	C17200	Ep62	-	-	0.20	-	-	-	max 0.30	max 0.30	0.80-2.10	-	Rest	

Mat.No.	DIN	ASTM	GOST	Usage Areas
CuCrZr	2128	C18150	Epixylic	In continuous casting molds of steel and aluminum, in spray nozzles of plastic injection machines and in forming - shaping 51311 41 plastic extrusion.
CuCo2Be	21285	C17500	-	In blow, injection molds and molded p4114 45 plastics due to the high thermal conductivity of nickel alloys and stainless steel as resistance welding electrode, electrode holder, seam welding disc
CuCoNiBe	21285	C17510	-	Although the usage areas are similar with the CuCo2Be alloy, in resistance welding electrode, electrode holders and seam welding discs and also in casting alloys such as copper, brass, bronze, as a permanent mold
CuNi2SiCr	20855	C18100	-	In plastic injection molded parts, aluminum injection molding machine pistons and electrode holders and seam welding shafts.
CuBe2	21247	C17200	Ep62	It is used in the production of hand tools as it is not magnetic and does not generate sparks, as a welding electrode for steel wheel production, injection pneumatic molding materials in the plastic industry, as a bearing material especially in the petroleum industry because it has high abrasion resistance.

HS Administrative headquarters location



HS Warehouse location



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Fast Shipping

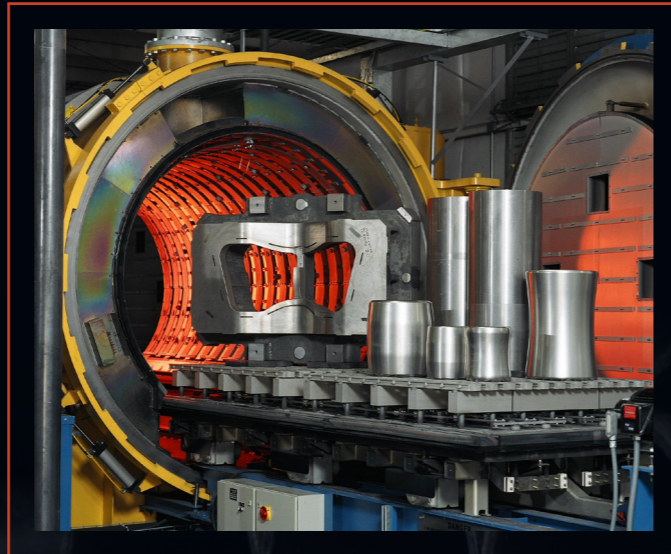
In less than 3 weeks from making the order we deliver you .



Heat Treatment

We see steel and heat treatment as a whole. Material performance is directly proportional to heat treatment quality. Our engineers in our partner heat treatment company create charges according to the quality, size and desired hardness of your part. After all heat treatment applications are recorded, they are served with certification and performance report .

Our Heat Treatment Tempering , Induction , Oxidation , Stress Relieving , Case Hardening , Normalization Annealing , Nitration , Aging .



Technical Support

We provide engineering services in your projects with our strong engineer staff who are experts in their fields and thanks to our experience in the sector. We are a solution partner in material selection, design, processing, application techniques and heat treatment. We offer you alternative material choices that will make a difference in mass production and product quality, in case of problems arising from the wrong material choice .



Custom Production

Based on the agreements with the hugest steel mills plants in the far east and Europe we can provide you any materials you need .



Quality

As HS Metal with the mission of 'We add value to production with our quality and fast service', we have set ourselves as a target to ensure continuity in product and service quality in order to keep customer satisfaction at the highest level, with a customer-oriented management approach. In order to check the compliance of the steels in our stocks with international standards, we have the following equipment in our test laboratories .



OUR

PARTNERS .

