

SeAH CSS

SeAH Changwon
Integrated Special Steel



**CARBON &
ALLOY STEEL**



SeAH CSS's constant mission: Creating new value from steel for the world

Our constant mission is to open a door to the future of the global special steel industry.

From high-tech industries including power generation, petrochemicals and semiconductors to futuristic industries such as nuclear power and aerospace, SeAH CSS is growing into a leader in Stainless steel, Tool steel, and Ni-alloys.

With our products, we aim to raise the level of customer satisfaction and set up the new industry standard by constantly challenging ourselves.



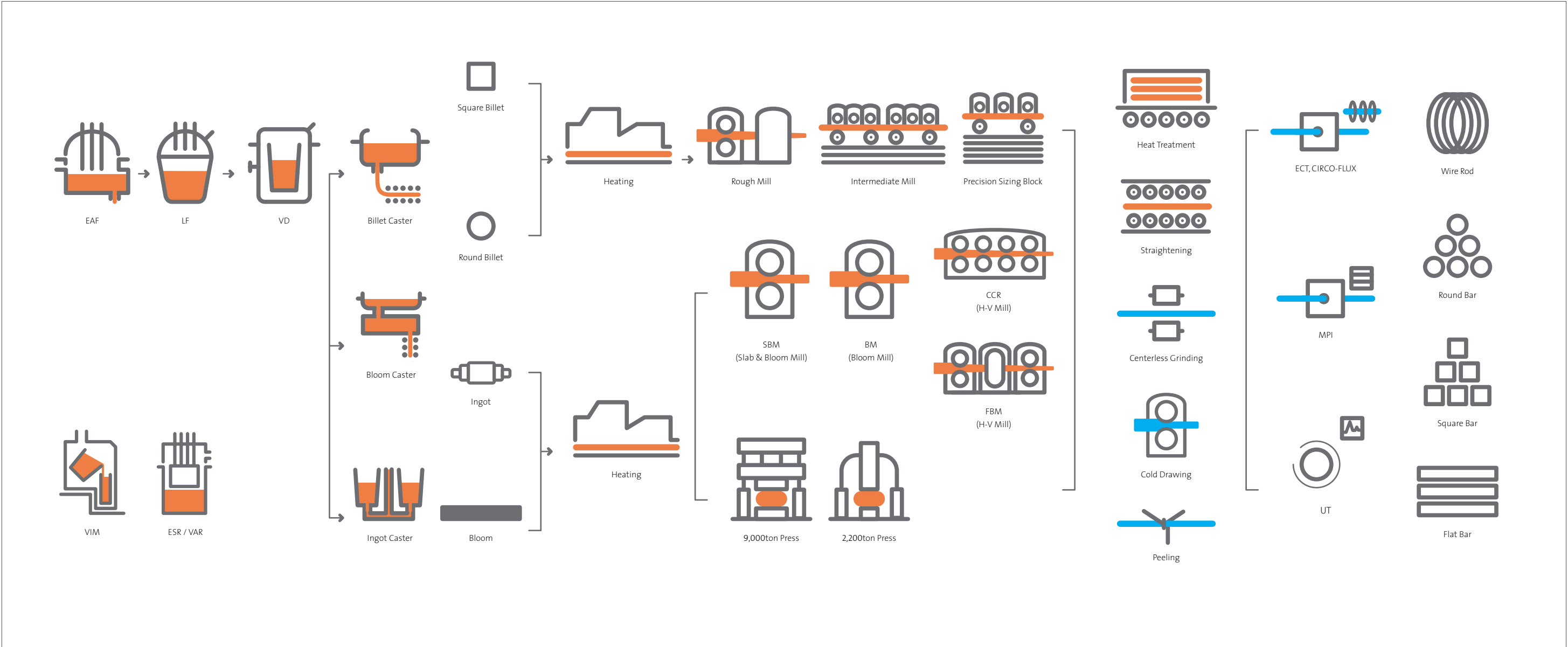
History

- 04/1966 Founded as Samyang Special Steel Co., Ltd.
- 12/1977 Completed a general special steel plant as Korea Specialty Steel Co., Ltd
(for round bars, steel pipes and plates)
- 06/1982 Changed its name to SAMMI General Special Steel Co., Ltd
- 04/1991 Opened its second special steel plant
(for steelmaking, rolling, processing)
- 02/1997 Annexed to POSCO Group
(for round bars and pipe business)
- 10/2006 Completed the 1st phase of its facility rationalization
(AOD, HV Mill, Second acid cleaning plant and more)
- 02/2007 Renamed Changed its name to POSCO Specialty Steel Co., Ltd
- 04/2012 Completed the 2nd phase of its facility rationalization
(60ton EAF, Bloom Caster, SBM and more)
- 03/2015 Acquired by SeAH Group and changed its name to SeAH Changwon Integrated Special Steel Co., Ltd

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Manufacturing Process



EAF



ESR



Billet Caster



Bloom Caster



Press(9,000/2,200ton)



SBM



CCR



Precision Size Block



Applications

We offer products optimized for our customers’ needs and utilized for various purposes through continuous product development and thorough quality management.

Automobile

Parts for transmissions, engines, and chassis



Vessel

Bolts for fixing engines, valves, pipes



Heavy equipment

Track links, pins & bushings



Plants

Parts for heat exchangers, turbines and power generators



Machinery

Bolts, nuts, shafts, LM guides, bearings



Military Weapons & Equipment

Functional parts such as gun barrels and projectiles



Specifications

Type	Grade	Standards				Chemical Composition(wt,%)									
		KS-JIS	SAE/AISI	ASTM	DIN/Others	C	Si	Mn	P	S	Ni	Cr	Mo	Cu	Others
Structural steel	S10C	SM10C	1010		CK10	0.08~0.13	0.15~0.35	0.30~0.60	~0.030	~0.035					
	S15C	SM15C	1015		CK15	0.13~0.18	0.15~0.35	0.30~0.60	~0.030	~0.035					
	S20C	SM20C	1020		CK20	0.18~0.23	0.15~0.35	0.30~0.60	~0.030	~0.035					
	S25C	SM25C	1025		CK25	0.22~0.28	0.15~0.35	0.30~0.60	~0.030	~0.035					
	S30C	SM30C	1030		CK30	0.27~0.33	0.15~0.35	0.60~0.90	~0.030	~0.035					
	S35C	SM35C	1035		CK35	0.32~0.38	0.15~0.35	0.60~0.90	~0.030	~0.035					
	S40C	SM40C	1040		CK40	0.37~0.43	0.15~0.35	0.60~0.90	~0.030	~0.035					
	S45C	SM45C	1045		CK45	0.42~0.48	0.15~0.35	0.60~0.90	~0.030	~0.035					
	S50C	SM50C	1050		CK50	0.47~0.53	0.15~0.35	0.60~0.90	~0.030	~0.035					
	S53C	SM53C	1053		CK53	0.50~0.56	0.15~0.35	0.60~0.90	~0.030	~0.035					
	S55C	SM55C	1055		CK55	0.52~0.58	0.15~0.35	0.60~0.90	~0.030	~0.035					
	S58C	SM58C	1058		CK58	0.55~0.61	0.15~0.35	0.60~0.90	~0.030	~0.030					
	XC43					0.40~0.46	0.15~0.35	0.60~0.90	~0.030	~0.035		0.20~0.40			
	XC55				S53CCF	0.52~0.56	0.15~0.35	0.60~0.90	~0.030	~0.030		0.10~0.20			
	S45CR					0.42~0.48	0.15~0.35	0.60~0.90	~0.030	~0.035		0.10~0.20			
	S55CR					0.55~0.58	0.15~0.35	0.60~0.90	~0.030	~0.035		0.10~0.20			
	S45CS				S45CHS	0.44~0.47	0.20~0.30	0.60~0.90	~0.030	0.020~0.040		~0.20			
	S53CM					0.50~0.56	0.15~0.35	0.65~0.85	~0.030	0.025~0.045					
	S55CM					0.55~0.58	0.15~0.35	0.60~0.90	~0.025	~0.025		0.12~0.20			
	S58CM					0.55~0.60	0.15~0.35	0.60~0.90	~0.025	~0.025		0.10~0.40			
Mn steel	SAE1006	SWRCH6A	1006			~0.08		0.25~0.40	~0.030	~0.050					
	SAE1045M	S45C	1045			0.46~0.50	0.20~0.30	0.80~1.10	~0.025	0.015~0.030					
	SAE1050M	S50C	1050			0.48~0.55	0.15~0.30	0.90~1.10	~0.030	0.025~0.040					
	LF2			A266Grade2	SF490V	~0.30	0.15~0.30	0.60~1.35	~0.035	~0.040					
	A105	SM490YB			SA105	~0.35	~0.35	0.60~1.05	~0.040	~0.050					
	SMN420	SMN420	1520	LT40	20MN2	0.17~0.23	0.15~0.35	1.20~1.50	~0.030	~0.030					
	SMN433	SMN433	1536		28MN6	0.30~0.36	0.15~0.35	1.20~1.50	~0.030	~0.030					
	SMN438	SNM438	1541		35MN2	0.35~0.41	0.15~0.35	1.35~1.65	~0.030	~0.030					
	SMN443	SMN443	1547		40MN2	0.40~0.46	0.15~0.35	1.35~1.65	~0.030	~0.030					
	SAE1541M					0.40~0.45	0.15~0.35	1.40~1.65	~0.035	~0.050					
Cr steel	SAE1552M					0.51~0.54	0.15~0.35	1.40~1.65	~0.035	0.010~0.030					
	AISI1340		1340			0.38~0.43	0.15~0.35	1.60~1.90	~0.030	~0.040					
	S34MNV	SMN430V		A572	32MNV	~0.37	~0.35	~1.40	~0.020	~0.020					V added
	S45MNS					0.42~0.50	~0.40	~1.40	~0.035	0.025~0.045					Al added
	SCR415(H)	SCR415H	5115(H)		15Cr	0.12~0.18	0.15~0.35	0.60~0.90	~0.030	~0.030		0.90~1.20			
	SCR420(H)	SCR420H	5120(H)		20Cr	0.18~0.23	0.15~0.35	0.60~0.90	~0.030	~0.030		0.90~1.20			
	SCR430(H)	SCR430H	5130(H)		30Cr	0.28~0.33	0.15~0.35	0.60~0.90	~0.030	~0.030		0.90~1.20			
	SCR435(H)	SCR435H	5135(H)		35Cr	0.32~0.39	0.15~0.35	0.60~0.90	~0.030	~0.030		0.90~1.20			
	SCR440(H)	SCR440H	5140(H)		42Cr	0.38~0.43	0.15~0.35	0.60~0.90	~0.030	~0.030		0.90~1.20			
	SCR420H1				SCR420H2	0.17~0.23	0.15~0.35	0.55~0.90	~0.025	~0.025		0.85~1.25			
	SCR420H1V				SCR420H2V	0.17~0.23	0.15~0.35	0.55~0.90	~0.030	~0.030		0.85~1.25			
	SCR420H3VS2				SCR420HS	0.17~0.23	0.15~0.35	0.55~0.90	~0.030	0.020~0.030	~0.25	0.85~1.25		~0.30	
	SCR420H9VS2				SCR420HS	0.17~0.23	0.15~0.35	0.55~0.90	~0.030	0.020~0.030	~0.25	0.85~1.25		~0.30	
	SCR420HB				SAE5120HB	0.17~0.23	0.15~0.35	0.55~0.90	~0.020	~0.020		0.85~1.25	0.05~0.10		B.Nbadded
	16MnCR55				41CrS4	0.14~0.19	~0.40	1.00~1.30	~0.035	0.020~0.035		0.80~1.10			

Specifications

Type	Grade	Standards				Chemical Composition(wt,%)									
		KS-JIS	SAE/AISI	ASTM	DIN/Others	C	Si	Mn	P	S	Ni	Cr	Mo	Cu	Others
Cr-Mo steel	SCM415	SCM415H	4115(H)		16CrMo4	0.13~0.18	0.15~0.35	0.60~0.90	~0.030	~0.030		0.90~1.20	0.15~0.25		
	SCM418	SCM418H	4118(H)		18CrMo4	0.16~0.21	0.15~0.35	0.60~0.90	~0.030	~0.030		0.90~1.20	0.15~0.25		
	SCM420	SCM420H	4120(H)		20CrMo4	0.18~0.23	0.15~0.35	0.60~0.90	~0.030	~0.030		0.90~1.20	0.15~0.25		
	SCM435	SCM435H	4135(H)		34CrMo4	0.33~0.33	0.15~0.35	0.60~0.90	~0.030	~0.030		0.90~1.20	0.15~0.30		
	SCM440	SCM440H	4140(H)	A320 L7	42CrMo4	0.38~0.43	0.15~0.35	0.60~0.85	~0.030	~0.030		0.90~1.20	0.15~0.30		
	SCM445	SCM445H	4145(H)		50CrMo4	0.43~0.48	0.15~0.35	0.60~0.90	~0.030	~0.030		0.90~1.20	0.15~0.30		
	SCM420V				12CrMoV	0.17~0.22	0.20~0.35	0.50~0.85	~0.030	~0.035		0.90~1.20	0.15~0.25		V added
	SCM445V			A193 B16		0.43~0.48	0.20~0.35	0.50~0.85	~0.030	~0.030		0.90~1.20	0.15~0.30		V added
	SCM722H					0.19~0.25	0.15~0.35	0.55~0.90	~0.030	~0.030		0.95~1.25	0.20~0.40		
	SCM822H					0.20~0.25	0.15~0.35	0.60~0.90	~0.030	~0.030		0.90~1.20	0.35~0.45		
	SCMH1		4120H			0.20~0.25	0.15~0.35	0.60~1.00	~0.030	~0.030		0.90~1.30	0.20~0.40		
	SCMH1M		4120H			0.20~0.25	0.15~0.35	0.70~1.10	~0.030	~0.030		0.95~1.35	0.08~0.15		
	SACM645	SACM1			41CrAlMo7-10	0.40~0.50	0.15~0.50	~0.60	~0.030	~0.030	~0.25	1.30~1.70	0.15~0.30	~0.30	Al added
	SCM920HVSI					0.17~0.21	~0.15	0.60~0.85	~0.020	~0.030		1.25~1.45	0.55~0.65		Nb added
	B5	STPA25		F5 / T5	8CrMo16-5	0.10~0.15	~1.00	~1.00	~0.040	~0.030		4.00~6.00	0.40~0.65		
	B16	SNB16		B21	40CrMoV4	0.36~0.47	0.15~0.35	0.45~0.70	~0.035	~0.040		0.80~1.15	0.50~0.65		V added
	F11			A739 B11		0.05~0.15	0.50~1.00	0.30~0.60	~0.030	~0.030		1.00~1.50	0.44~0.65		Al added
	F12				15CrMoV5-9	0.10~0.15	~0.50	0.30~0.60	~0.010	~0.010		0.80~1.25	0.44~0.65		
	F22	STPA24		B22	31CrMo12	~0.15	~0.50	0.30~0.60	~0.040	~0.040		2.00~2.50	0.87~1.13		
	F23					0.04~0.10	~0.50	0.10~0.60	~0.030	~0.010		1.90~2.60	0.05~1.30		W,V,Nbadded
	21CRMov511				B50A164B	0.17~0.25	0.30~0.60	0.30~0.60	~0.035	~0.035	~0.60	1.20~1.50	1.00~1.20		V added
	20CRMovTIB4-10					0.17~0.23	~0.40	0.35~0.75	~0.020	~0.020	~0.20	0.9~1.20	0.9~1.10		Ti,V,B added
	31CRMov9				WNr 1.8519	0.27~0.34	~0.40	0.40~0.70	~0.025	~0.035		2.30~2.70	0.15~0.25		V added
	31CRM012				WNr 1.8515	0.28~0.35	~0.40	0.40~0.70	~0.020	~0.030		2.80~3.30	0.30~0.50		
	58CRMov4				EN 17792	0.55~0.62	0.15~0.40	0.70~1.10	~0.035	~0.040		0.90~1.20	0.15~0.25		V added
Mo steel	ASCM17H1	SCM420H	4118(H)		18CrMo4	0.15~0.21	0.15~0.35	0.55~0.90	~0.030	0.015~0.025		0.85~1.25	0.15~0.35		
	SCM620HSI					0.18~0.23	0.80~0.95	0.40~0.75	~0.020	~0.030	0.25~0.45	2.10~2.40	0.20~0.40	~0.30	V, Nb added
	SAE4015		4015		16Mo3	0.12~0.20	0.10~0.35	0.40~0.80	~0.035	~0.035			0.25~0.35		
	SAE4025		4025	F1 Class		0.20~0.30	0.15~0.35	0.60~0.80	~0.025	~0.025			0.40~0.60		
Ni-Cr/Ni-Mo steel	SAE4045		4045	A194Grade4		0.40~0.50	0.15~0.35	0.70~0.90	~0.035	~0.040			0.20~0.30		
	20MnMo4		4023			0.17~0.23	0.15~0.35	1.10~1.40	~0.025	~0.015			0.20~0.35		
	SNC415	SNC21			14NiCr10	0.12~0.18	0.15~0.35	0.35~0.65	~0.030	~0.030	2.00~2.50	0.20~0.50			
	SNC631	SNC2			36NiCr10	0.27~0.35	0.15~0.35	0.35~0.65	~0.030	~0.030	2.50~3.00	0.60~1.00			
	SNC236	SNC1	3135		36NiCr6	0.32~0.40	0.15~0.35	0.50~0.80	~0.030	~0.030	1.00~1.50	0.40~0.90			
	SNC815				15NiCr13	0.12~0.18	0.15~0.35	0.35~0.65	~0.030	~0.030	3.00~3.50	0.70~1.00			
	SNC836	SNC3			31NiCr14	0.32~0.40	0.15~0.35	0.35~0.65	~0.030	~0.030	3.00~3.50	0.60~1.00			
	AISI4620		4620H	A580Grade3		0.17~0.23	0.15~0.35	0.35~0.75	~0.035	~0.040	1.55~2.00		0.20~0.30		
	AISI4815		4815H			0.12~0.18	0.15~0.35	0.30~0.70	~0.025	~0.025	3.20~3.80		0.20~0.30		
	AISI4820		4820H		30NiMoCr10	0.17~0.23	0.15~0.35	0.40~0.80	~0.035	~0.040	3.20~3.80		0.20~0.30		
Ni-Cr-Mo steel	LF3		2315			~0.20	0.20~0.35	~0.90	~0.035	~0.040	3.20~3.70		~0.12		
	SNCM220	SNCM21	8620H		20NiCrMo2	0.17~0.23	0.15~0.35	0.60~0.90	~0.030	~0.030	0.40~0.70	0.40~0.60	0.15~0.25	~0.30	
	SNCM240	SNCM6	8640H			0.38~0.43	0.15~0.35	0.70~1.00	~0.030	~0.030	0.40~0.70	0.40~0.60	0.15~0.25	~0.30	
	SNCM415	SNCM22	4315H			0.12~0.18	0.15~0.35	0.40~0.70	~0.030	~0.030	1.60~2.00	0.40~0.60	0.15~0.30	~0.30	
	SNCM420	SNCM23	4320H		20NiCrMo7	0.17~0.23	0.15~0.35	0.40~0.70	~0.030	~0.030	1.60~2.00	0.40~0.60	0.15~0.30	~0.30	
	SNCM431	SNCM1				0.37~0.35	0.15~0.35	0.60~0.90	~0.030	~0.030	1.60~2.00	0.60~1.00	0.15~0.30	~0.30	

Specifications

Type	Grade	Standards				Chemical Composition(wt,%)									
		KS-JIS	SAE/AISI	ASTM	DIN/Others	C	Si	Mn	P	S	Ni	Cr	Mo	Cu	Others
Cr-Mo Steel	SNCM439	SNCM8	4340H	A540B23,24	34NiCrMo6	0.36~0.43	0.15~0.35	0.60~0.90	~0.030	~0.030	1.60~2.00	0.60~1.00	0.15~0.30	~0.30	
	SNCM447	SNCM9	4345	A194Grade7	45NiCrMo6	0.44~0.50	0.15~0.35	0.60~0.90	~0.030	~0.030	1.60~2.00	0.60~1.00	0.15~0.30	~0.30	
	SNCM616		9310H			0.13~0.20	0.15~0.35	0.80~1.20	~0.030	~0.030	2.80~3.20	1.40~1.80	0.40~0.60	~0.30	
	SNCM815		9315H			0.12~0.18	0.15~0.35	0.30~0.60	~0.030	~0.030	4.00~4.50	0.70~1.00	0.15~0.30	~0.30	
	SNCM625	SNCM625	9325			0.20~0.30	0.15~0.35	0.35~0.60	~0.030	~0.030	3.00~3.50	1.00~1.50	0.15~0.30	~0.30	
	SNCM630	SNCM5	9330		30NiMoCr10	0.25~0.35	0.15~0.35	0.35~0.60	~0.030	~0.030	3.00~3.50	1.00~1.50	0.15~0.30	~0.30	
	SNCM630M					0.24~0.29	0.32~0.45	0.35~0.55	~0.030	~0.030	3.70~3.95	1.55~1.80	0.40~0.50	~0.30	Al added
	SAE8625H				21NiCrMo2-2	0.22~0.28	0.15~0.35	0.60~0.95	~0.035	~0.040	0.35~0.75	0.35~0.65	0.15~0.25	~0.30	
	SAE8630H				30NiCrMo2-2	0.27~0.33	0.15~0.35	0.60~0.95	~0.035	~0.040	0.35~0.75	0.35~0.65	0.15~0.25	~0.30	
	SAE8650H	SNCM7			48NiCrMo2-2	0.47~0.54	0.15~0.35	0.70~1.05	~0.035	~0.040	0.35~0.75	0.35~0.65	0.15~0.25	~0.35	
	SAE8660H				60NiCrMo2	0.55~0.65	0.15~0.35	0.70~1.05	~0.035	~0.040	0.35~0.75	0.35~0.65	0.15~0.25	~0.35	
	SAE8720H				21NiCrMo2-2	0.17~0.23	0.15~0.35	0.60~0.95	~0.030	~0.040	0.35~0.75	0.35~0.65	0.20~0.30	~0.35	
	18CrNiMo7				WNr1.6587	0.15~0.22	~0.40	0.40~0.60	~0.035	~0.035	1.40~1.70	1.50~1.80	0.25~0.35		
	30CrNiMo8				WNr1.6580	0.26~0.34	~0.40	0.40~0.60	~0.035	~0.035	1.80~2.20	1.80~2.20	0.30~0.50		
	34CrNiMo6				WNr1.6582	0.30~0.38	~0.40	0.50~0.80	~0.035	~0.035	1.30~1.70	1.30~1.70	0.15~0.30		
	42CrNiMo6					0.38~0.45	~0.40	0.50~0.90	~0.035	~0.025	0.80~1.00	0.90~1.20	0.15~0.30		
	SKC24M				40NiMoCr10-5	0.37~0.43	0.15~0.35	0.50~0.70	~0.035	~0.035	2.40~2.70	0.60~0.80	0.40~0.60		
	D-300M				38NiCrMoV7-3	0.40~0.45	1.45~1.80	0.65~0.90	~0.010	~0.010	1.65~2.00	0.70~0.95	0.35~0.45		V added
Boron Added Steel	AISI10B21					0.18~0.23		0.60~0.90	~0.040	~0.050					
	AISI10B22		10B22		PC22B	0.18~0.23	0.15~0.35	0.70~1.00	~0.040	~0.050					
	AISI10B30		10B30		PC30B	0.28~0.34		0.60~0.90	~0.030	~0.050					
	AISI10B35		10B35		PC35B	0.32~0.38		0.60~0.90	~0.030	~0.050					
	AISI10B38					0.35~0.42		0.60~0.90	~0.030	~0.050					
	15B23M		15B21H		20MnCrB3	0.20~0.60	0.15~0.30	0.80~1.10	~0.030	~0.030		0.10~0.20			
	15B36M		15B35H		39MnCrB6-2	0.32~0.36	0.20~0.30	1.20~1.45	~0.025	0.010~0.025		0.20~0.30			
	15B24CR					0.23~0.26	0.20~0.35	0.85~1.15	~0.030	~0.030		0.15~0.30			
	15B36CR					0.32~0.36	0.20~0.30	1.20~1.50	~0.025	~0.025		0.20~0.35			
	41B30M				40CrMoB3	0.31~0.36	0.15~0.35	1.00~1.30	~0.030	~0.030		0.40~0.65	0.13~0.20		
	S43BC					0.48~0.48	0.15~0.35	0.60~0.90	~0.030	~0.035		~0.20			
	SCR420B		51B20		20MnCrB5	0.18~0.23	0.15~0.35	0.60~0.85	~0.025	~0.025		0.90~1.20			
	SCR440B					0.38~0.43	0.15~0.35	0.60~0.85	~0.030	~0.030		1.30~1.60			
	SCM440B					0.38~0.43	0.15~0.35	0.60~0.85	~0.030	~0.030		0.90~1.20	0.15~0.30		B : 8~30ppm
Spring Steel	SUP6	SPS3			250A53	0.56~0.64	1.50~1.80	0.70~1.00	~0.035	~0.035				~0.30	
	SUP7	SPS4	9260		60SiCr7	0.56~0.64	1.80~2.20	0.70~1.00	~0.035	~0.035				~0.25	
	SUP9	SPS5	5155		55Cr3	0.52~0.60	0.15~0.35	0.65~0.95	~0.035	~0.035		0.65~0.95		~0.25	
	SUP9D					0.56~0.60	0.20~0.30	0.80~0.95	~0.025	~0.010	~0.15	0.80~0.90	~0.06	~0.20	Al added
	SUP9A		5160H			0.56~0.64	0.15~0.35	0.70~1.00	~0.035	~0.035		0.70~1.00		~0.30	
	SUP11A				52MnCrB3	0.56~0.64	0.15~0.35	0.70~1.00	~0.035	~0.035		0.70~1.00		~0.30	B added
	SAE9254				54SiCr6	0.51~0.59	1.20~1.60	0.60~0.80	~0.035	~0.040	~0.25	0.60~0.80		~0.35	
	50CrMoV				SAE9250V	0.47~0.55	0.15~0.40	0.70~1.10	~0.030	~0.030		0.90~1.20		~0.25	V added
Bear-ing Steel	SUJ2	STB2	52100		100CR6	0.95~1.10	0.15~0.35	~0.50	~0.025	~0.025		1.30~1.60			
	SUJ5	STB5				0.95~1.10	0.40~0.70	0.90~1.15	~0.025	~0.025		0.90~1.20	0.10~0.25		

Specifications

Type	Grade	Standards				Chemical Composition(wt,%)									
		KS-JIS	SAE/AISI	ASTM	DIN/Others	C	Si	Mn	P	S	Ni	Cr	Mo	Cu	Others
Free Cutting Steel	SUM21		1212		10S20	~0.13		0.70~1.00	0.07~0.12	0.16~0.24					
	SUM22		1213		11SMn30	~0.13		0.70~1.00	0.07~0.12	0.24~0.33					
	SUM23		1215		11SMn37	~0.09		0.75~1.05	0.04~0.90	0.26~0.35					
	SUM31		1117			0.14~0.20		1.00~1.30	~0.040	0.08~0.13					
	SUM32		1118		15S22	0.12~0.20		0.60~1.10	~0.040	0.10~0.20					
	SUM41		1137		35S20	0.32~0.39		1.35~1.65	~0.040	0.08~0.13					
	SUM42		1141			0.37~0.45		1.35~1.65	~0.040	0.08~0.13					
	SUM43		1144		44SMn28	0.40~0.48		1.35~1.65	~0.040	0.24~0.33					
	AISI1140					0.37~0.44		0.70~1.00	~0.040	0.08~0.13					
	AISI1151				46S20	0.48~0.55		0.70~1.00	~0.040	0.08~0.13					
High tensile Steel	PC30Si					0.28~0.32	1.65~1.85	0.65~0.85	~0.030	~0.015					Al added
	PC32Si					0.30~0.34	1.65~1.85	0.65~0.85	~0.030	~0.015					Al added
	PC32B					0.30~0.34	0.20~0.30	0.65~0.85	~0.030	~0.015					B, Ti added
	PC32SiB					0.29~0.34	1.00~1.50	0.65~0.90	~0.030	~0.015					B, Ti added
	PC35SiB					0.32~0.38	1.10~1.50	0.60~0.90	~0.030	~0.015					B, Ti added
SeAH CSS Spec	PSA1140F				SAE1140	0.37~0.45		1.20~1.50	~0.040	0.080~0.140					
	PSA1540M	SMN420M			40Mn16	0.38~0.42	1.90~2.10	4.80~5.20	~0.030	~0.030	~0.25	~0.25		~0.30	Al added
	PSA1540VS1	S40CVT			38MNSIVS5	0.38~0.42	0.15~0.35	0.70~0.90	~0.030	0.020~0.040	~0.20	~0.20			V added
	PSA1554	SMN440M			55Mn4	0.52~0.57	0.15~0.35	1.10~1.40	~0.035	~0.035	~0.35				
	PSA12Cr1V	SCR415M			5115MV,12CRV4	0.08~0.15	0.17~0.37	0.60~0.90	~0.030	~0.030		0.80~1.20		~0.30	V added
	PSA51B32M				51B35M	0.30~0.35	0.15~0.35	0.60~0.90				0.80~1.20			
	PSA5135H1				51B35M	0.32~0.37	0.15~0.35	0.60~0.90	~0.030	0.015~0.030		0.90~1.25			
	PSA4119	SCM420H	4120H		DSCM419H	0.18~0.23	0.15~0.35	0.60~0.80	~0.035	0.010~0.040	~0.25	0.50~0.70	0.30~0.40	~0.30	
	PSA4136	SCM435H	4135H		DSCM436H	0.33~0.40	0.15~0.35	0.60~0.80	~0.035	~0.040	~0.25	0.70~0.90	0.30~0.40	~0.30	
	PSA3115MS														
	PSA3333				33NICR12	0.30~0.35	0.25~0.35	0.40~0.60	~0.018	~0.012	4.00~4.40	1.10~1.30			
	PSA3310					0.08~0.13	0.20~0.35	0.40~0.60	~0.025	~0.025	3.20~3.70	1.40~1.70			
	PSA4120H1														
	PSA41B20	SCR420HB				0.14~0.20	0.20~0.40	0.70~0.90	~0.025	~0.025		1.50~1.80	0.40~0.50	0.25~0.35	B added
	PSA41B20Ni														
	PSA4140M					0.38~0.43	0.15~0.35	0.80~1.00	~0.030	~0.030	~0.25	0.90~1.20	0.20~0.40	~0.30	
	PSA4316M				SAE4316M	0.12~0.20	~0.35	0.80~1.20	~0.030	~0.020	2.80~3.20	1.40~1.80	0.40~0.60		V added
	PSA4356V				SAE4356V	0.54~0.58	1.00~1.15	0.80~0.95	~0.030	~0.020	2.30~2.60	0.45~0.65	0.32~0.58		V added
	PSA9316V	SNCM26V				0.13~0.20	0.15~0.35	0.80~1.20	~0.030	~0.030	2.80~3.20	1.40~1.80	0.40~0.60	~0.30	V added
	PSTBM	SKD11		D2M	WNR1.2379	0.48~0.55	0.25~0.40	0.70~0.90	~0.025	~0.020	1.00~1.50	2.00~3.00	0.30~0.50	~0.20	V added
	PSTBM2	SKD11		D2M	WNR1.2379	0.45~0.50	0.80~0.90	0.70~0.90	~0.030	~0.030	0.30~0.45	5.00~5.50	0.80~1.00	~0.20	V added
	PSA6145					0.40~0.50	0.15~0.50	~0.60	~0.030	0.010~0.030	~0.25	1.30~1.70	0.15~0.30	~0.30	Al added
	TCM10				FTK-1	0.29~0.33	1.70~2.00	0.60~0.80	~0.030	~0.015	~0.25	1.80~2.00	0.25~0.35	~0.25	Al, V added
	JSP				AISI9332V	0.32~0.36	0.10~0.30	0.50~0.80			2.20~2.60	0.80~1.10	0.45~0.60		V added
	PFS-100				15NiCuMoNb5	~0.06	~0.40	0.40~0.70			3.30~3.60	0.45~0.75	0.40~0.60		Cu, Ni added
	SCMH		4120H			0.20~0.25	0.15~0.35	0.60~1.00	~0.030	~0.030		0.90~1.30	0.20~0.40		
	SCMH1M		5120H												
	SCMH2	SNCM420	4320H			0.17~0.23	0.15~0.35	0.75~1.00	~0.030	~0.030	0.40~0.80	0.85~1.20	0.25~0.45	~0.30	
	QS1136				SUM32M	0.37~0.41	0.15~0.35	0.80~1.00	~0.350	0.07~0.12	~0.25	0.15~0.35		~0.30	
	220MO7					~0.15		0.90~1.30	~0.070	0.20~0.30					
	063					0.41~0.49	0.20~0.35	0.60~0.90	~0.040	~0.040		0.80~1.15	0.30~0.4	~0.35	V added
	006					0.08~0.13	0.20~0.35	0.45~0.60	~0.025	~0.025	3.25~3.75	1.4~1.75			

Product Size

Round Bar

	Rolled	Forged
size	Black surface: 13.0~350 mmø	Black surface: 130~1,600mmø
	Smooth turning: 8.0~80 mmø	
	Rough turning: 81.0~340 mmø	Rough turning: 206~1,500mmø
	Centerless grounding: 5.7~80mmø	
	Drawing: 5.8~30mmø	
Length	Rolled: 2,000~12,000mm	Forged: 2,000~15,000mm



Square Bar

size	70~250SQ
Length	Max 12,000mm



Flat Bar

	Rolled	Forged
size	10~150T x 150~1.050W	150~1,100T x 200~2,000W
Length	3,000~6,000mm	



Wire Rod

size	5.5~34ø
Length	Outer diameter: Max 1,350mm (winding: counter-clockwise)
	Inner diameter: Min. 850mm
	Height: Max 1,500mm



* Contact us for the length of the products as they depend on surface and/or heat treatment.

Order Standards

Tolerance and Deviation

Classificaion	Surface		Tolerance(mm)	Deviation
Round Bar	Black Surface	BS	13≤ø≤35 : ±0.20mm 35<ø≤50 : ±0.25mm 50<ø≤80 : ±0.30mm 80<ø≤350: ±1.5% of Dia	Within 70 percent of the size tolerance
		CG	Class h9 or k9	Within 30 percent of the size tolerance
	White Surface	CD	Class h9 or k9, ASTM A484	
		ST	Class h11 or k11, ASTM A484	
		RT	Ø≤125 : +0.50, -0 125<Ø : +0.6% of Dia, -0	Within 70 percent of the size tolerance
		Round Bar	BS	< Ø ≤ 130 : +10, -0 130 < Ø ≤ 350 : +15, -0 350 < Ø ≤ 400 : +18, -0 400 < Ø ≤ 600 : +20, -0 600 < Ø ≤ 800 : +25, -0 800 < Ø ≤ 1000: +30, -0 1000<Ø : +50, -0
			RT	Ø≤400 : +2.0, -0 400<Ø≤980 : +1% of Dia, -0 980<Ø≤1300 : +1.6% of Dia, -0
		Wire Rod		~ 5.5Ø : ±0.15mm 5.5 ~ 13.0Ø : ±0.20mm
				13.0Ø~34Ø : ±0.20mm
	Round Square Bar			±2.0% of Dia.(not ground) ±3.0% of Dia.(ground)

* Length tolerance_ cutting standard:±4o, -o (as per JIS) / Others:Subject to consultation with us within facility specifications available from us

Size Tolerance(ISO,ASTM)

Diameter(mm) \ Tolerance		I S O					ASTM, A484 (REV:'96)
		h8	h9	h10	h11	h12	
6	8	+0 -0.022	+0 -0.036	+0 -0.058	+0 -0.090	+0 -0.150	±0.030
	10	+0 -0.027	+0 -0.043	+0 -0.070	+0 -0.110	+0 -0.180	±0.040
18	25.4	+0 -0.033	+0 -0.052	+0 -0.084	+0 -0.130	+0 -0.210	±0.050
	30	+0 -0.039	+0 -0.062	+0 -0.100	+0 -0.160	+0 -0.250	±0.060
50		+0 -0.046	+0 -0.074	+0 -0.120	+0 -0.190	+0 -0.300	±0.080
	80	+0 -0.054	+0 -0.087	+0 -0.140	+0 -0.220	+0 -0.350	
120							

*For class K, "+" to be applied for tolerance h (Its tolerance is the same as class h's) / Same as DIN67 class h9 * For the tolerance of upper limit dimen-sions within the diameter scope, follow the values listed below.

Certificates of Approval

 ISO 9001:2008 ISO QUALITY MANAGEMENT SYSTEM	 ISO/TS 16949:2009 ISO QUALITY MANAGEMENT SYSTEM	 ISO 14001:2004 ISO ENVIRONMENT AL MANAGEMENT SYSTEM	 KOSHA18001 KOSHA SAFE AND HEALTH MANAGEMENT SYSTEM	 KOREAN INDUSTRIAL STANDARDS	 JAPANESE INDUSTRIAL STANDARDS	 AD 2000- MERKBLATT Wo EUROPEAN DIRECTIVE 97/23/EC (PED)	 KOREA ELECTRIC POWER INDUSTRY CODE
 LLOYD'S REG- ISTER	 BUREAU VERITAS	 DNVGL NORWAY & GERMANY REGISTER					

Packing Types

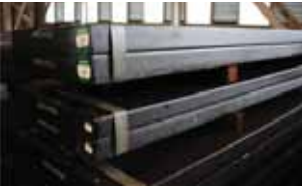
Round Bar

 Bare	 Hessian	 Wooden Slate	 Wooden Box
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Square Bar


Bare

Flat steel


Bare

Wire rod

 Bare	 Hessian
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Tag & Label

 Tag	 Label
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Order Requirements

We can only provide the right product for you when you fully specify what you need.
Be sure to provide detailed information for the line items below.
E-mail : trade@seah.co.kr / Website : www.seahss.co.kr/eng / Tel : +82 2 6970 2363, 2366 for questions

¹⁾Applicable standards: ASTM, JIS, DIN, etc. ²⁾Steel grade, surface heat treatment, dimension
³⁾Quantity and delivery ⁴⁾Applications, method of processing ⁵⁾Special requirements (if applicable)