

产品大纲 Products Scope

结构钢 STRUCTURAL STEEL

DIN(Germany)	ASTM(USA)	JIS(Japan)	GB(China)
C10-C60E/CK10-CK78	1010-1078	S10C-S58C	#10-#75
15Mn3-60Mn3	1016-1062	SWRH42B-62B	15Mn-60Mn
10S20-35S20	1112-1141	SUM21-42	Y12-Y40Mn
15Cr3-41Cr4	5115-5150	SCr415-445	15-50Cr
16-20MnCr5	5115-5120	SMnC420	15-20CrMn
75Cr1	4118-1140	SCM415-445	12-42CrMo
51CrV4	6120-6150	SUP10	20CrV-50CrVA
50CrNiMoVA	D6A	--	D6A
68CrNiMo-33	8660	--	8660

轴承钢 BEARING STEEL

DIN(Germany)	ASTM(USA)	JIS(Japan)	GB(China)
100Cr6	E52100	SUJ2	GCr15
100CrMn6	--	--	GCr15SiMn
100CrMo7	--	SUJ4	GCr18Mo
X105CrMo17	440C	--	9Cr18Mo/11Cr17

弹簧钢 SPRING STEEL

DIN(Germany)	ASTM(USA)	JIS(Japan)	GB(China)
CK65-CK85	1065-1086	SUP2P	#65-#85
55Si7-65Si7	9255-9260	SUP6-7	55-62Si2Mn
55Cr3	5155-5160	SUP9-9A	55-60CrMnA
58CrMnB4	51B60	SUP11A	60CrMnBA
51CrV4-58CrV4	6150	SUP10	50CrVA-58CrV4

马氏体不锈钢 STAINLESS STEEL

DIN(Germany)	ASTM(USA)	JIS(Japan)	GB(China)
X10Cr13-X38Cr13	410-420	SUS410-420	1-4Cr13
X70-105CrMo17	440A/B/C	SUS440A/B/C	7-11Cr17(Mo)
X45CrSi9-3	HNv3	SUH1	4Cr9Si2

工模具钢 DIE AND TOOL STEEL

DIN(Germany)	ASTM(USA)	JIS(Japan)	GB(China)
C90U(1.1830)	W1-C-8	SK85(SK5)	T8(A)
C105W2(1.1545)	W1A-91/2	SK95(SK4)	T10(A)
C120U(1.1663)	W1A-111/2	SK120(SK2)	T12(A)
--	L6	SKS51	SKS51
1.5634	--	75Ni8	75Ni8
X32CrMoV4-1(1.239)	--	X32	X32

>> 产品尺寸 Production Size

生产范围根据尺寸公差和硬度变化。
冷轧特殊钢带和热处理钢带的生产范围如图 1 所示和图 2 所示。

Production range changes in accordance with dimensional tolerance hardness.
The production range of cold-rolled special steel strip and Heat treated steel strip is shown in Table 1 and 2.



Table 1
cold rolled steel strip (mm)

厚度 Thickness	宽度 Width
0.2	300
0.3	300
0.4	300
0.5	350
0.6	350
0.7	350
0.8	400
0.9	400
1.0	500
1.1	500
1.2	500
1.3	500
1.4	500
1.5	600

Table 2
Quenching and tempering steel strip(mm)

厚度 Thickness	宽度 Width
0.2	300
0.3	300
0.4	300
0.5	350
0.6	350
0.7	350
0.8	400
0.9	400
1.0	500
1.1	500
1.2	500
1.3	500
1.4	500
1.5	520

■ 厚度尺寸公差 THICKNESS AND TOLERANCE

Nominal thickness (mm)		Thickness tolerance for nominal width								
		W< 125			125≤W< 250			250≤W<580		
>	=	A	B	C	A	B	C	A	B	C
	0.10	± 0.008	± 0.006	± 0.004	± 0.010	± 0.008	± 0.005	± 0.015	± 0.012	± 0.010
0.10	0.15	± 0.010	± 0.008	± 0.005	± 0.015	± 0.012	± 0.010	± 0.020	± 0.015	± 0.010
0.15	0.25	± 0.015	± 0.012	± 0.010	± 0.020	± 0.015	± 0.010	± 0.025	± 0.015	± 0.012
0.25	0.40	± 0.020	± 0.015	± 0.010	± 0.025	± 0.020	± 0.015	± 0.030	± 0.020	± 0.015
0.40	0.60	± 0.025	± 0.020	± 0.015	± 0.030	± 0.025	± 0.015	± 0.035	± 0.025	± 0.020
0.60	1.00	± 0.030	± 0.025	± 0.015	± 0.035	± 0.030	± 0.020	± 0.040	± 0.030	± 0.025
1.00	1.50	± 0.035	± 0.030	± 0.020	± 0.040	± 0.035	± 0.025	± 0.045	± 0.035	± 0.025
1.50	2.50	± 0.045	± 0.035	± 0.025	± 0.045	± 0.035	± 0.025	± 0.045	± 0.035	± 0.025
2.50	4.00	± 0.045	± 0.035	± 0.025	± 0.045	± 0.035	± 0.025	± 0.050	± 0.040	± 0.030
4.00	6.00	± 0.045	± 0.035	± 0.025	± 0.045	± 0.035	± 0.025	± 0.050	± 0.040	± 0.030

■ 宽度尺寸公差 WIDTH AND TOLERANCE

Nominal thickness		Tolerance of width for nominal thickness					
		W< 125		125≤W< 250		250≤W<580	
>	=	A	B	A	B	A	B
	0.60	±0.15	±0.10	±0.20	±0.13	±0.25	±0.18
0.60	1.50	±0.20	±0.13	±0.25	±0.18	±0.30	±0.20
1.50	2.50	±0.25	±0.18	±0.30	±0.20	±0.35	±0.25
2.50	4.00	±0.30	±0.20	±0.35	±0.25	±0.40	±0.30
4.00	6.00	±0.35	±0.25	±0.40	±0.30	±0.45	±0.35

NOTE 1 For strip in the hardened and tempered condition, the tolerances on width are to be agreed at the time of ordering.

■ 表面粗糙度 SURFACE ROUGHNESS

Thickness mm	Roughness		
	Class 1	Class 2	Class 3
t<0.500	Ra<0.30 μm Rt<3.00 μm	Ra<0.25 μm Rt<2.50 μm	Ra<0.20 μm Rt<2.00 μm
0.500≤t<0.700			
0.700≤t<1.000	Ra<0.35 μm Rt<3.50 μm	Ra<0.35 μm Rt<3.50 μm	Ra<0.30 μm Rt<3.00 μm
1.000≤t<1.750	Ra<0.40 μm Rt<4.00 μm		
1.750≤t<2.500	Ra<0.50 μm Rt<5.00 μm	Ra<0.45 μm Rt<4.50 μm	Ra<0.40 μm Rt<4.00 μm
2.500≤t<6.00	Ra<0.60 μm Rt<6.00 μm	Ra<0.55 μm Rt<5.50 μm	Ra<0.50 μm Rt<5.00 μm

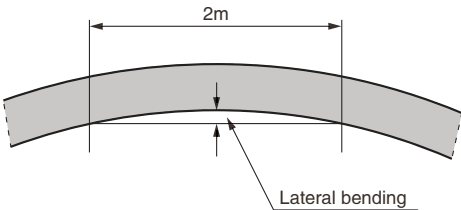
■ 横向弯曲公差 LATERAL BENDING TOLERANCE

Lateral bending tolerance values (except for the first and last meters) are shown right. They are arbitrarily measured every two meters.

(Units: mm)

Width	Grade	Lateral Bending Tolerance Value		
		A	S	SS
10 and <20		20	15	12
20 and <40		15	10	8
40 and <80		8	6	4
80 and 450		4	3	—

Diagram-1



■ 纵向公差 LONGITUDINAL TOLERANCE

This table shows the longitudinal tolerance for cold-rolled special steel strip that has been sheared into cut-sheets.

(Units: mm)

Length	Width	Less than 200	More than 200, less than 450
950 and 2,000		+5 -0	+10 -0
2,000>and 2,500		+10 -0	+20 -0

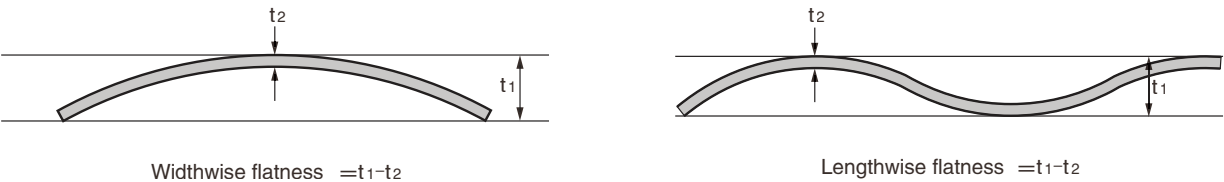
■ 平面度公差 FLATNESS TOLERANCE

This table gives the flatness tolerance, which is determined by deducting the thickness of the material from the total warp. This value is pertinent only for cold-rolled special steel strip that has been sheared into cut-sheets.

(Units: mm)

Tolerance			Thickness			
			Less than 0.60	More than 0.60, less than 1.20	More than 1.20, less than 3.20	More than 3.20, less than 5.00
Width: Less than 200	Annealed	Widthwise	1.0	1.0	1.5	2.0
		Lengthwise	2.0	3.0	3.0	5.0
	Hard-drawn	Widthwise	1.0	1.5	1.5	2.5
		Lengthwise	3.0	4.0	4.0	6.0
Width: more than 200, Less than 450	Annealed	Widthwise	1.5	2.0	2.5	3.0
		Lengthwise	4.0	5.0	5.0	7.0
	Hard-drawn	Widthwise	1.5	2.0	3.0	4.0
		Lengthwise	6.0	7.0	7.0	9.0

Diagram-5



» 交货状态和硬度 Finish and Hardness

■ 冷轧特殊钢带有以下交货状态

COLD-ROLLED SPECIAL STEEL STRIP IS AVAILABLE IN THE FOLLOWING FINISHES.

Stage	Symbol	Condition
Annealing	A	Annealing is implemented after cold rolling.
Skinpass	S	Annealing and thermal refining are implemented after cold rolling.
Deep drawing	C	Cold rolling is implemented.
Patenting	PT	Patenting treatment and fixed cold rolling are implemented.
PPC	PC	Spheroidal carbide is refined.

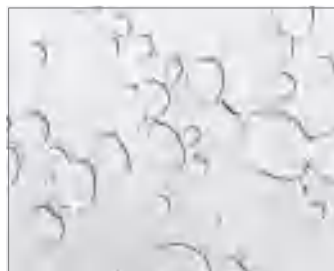
■ 特殊交货状态 STEEL WITH SPECIAL FINISHES

PPC FINISH

PPC steel is manufactured by finely distributing spheroidized carbides(approximately one-fifth of a carbide particle in diameter) on a special hotrolled strip and possesses the following strengths.

- The austenitization period is short, thereby allowing rapid hardening.
- During annealing, hardness of HV250 can be achieved. Through cold rolling and aging treatment, this can be raised to HV350, making it useful as heat-conserving material.

Standard	Type of Steel	Annealing	Production Range(Thickness)
JIS	SK95(SK4)	HV250 ~ 310	0.3 ~ 6.0mm
	SK85(SK5)		



Ordinary material × 4,600



PPC × 4,600

PT FINISH

PT steel is manufactured by applying a patenting treatment and then fixed cold rolling. Hardness of more than HV500 can be obtained through cold rolling and aging treatment.

This steel can be used in ordinary chains and springs and as heat-conserving material.

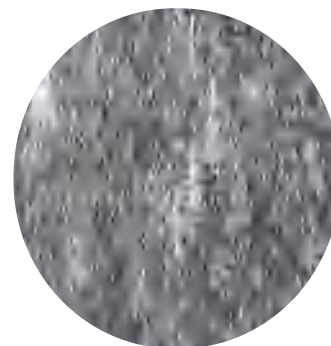
Standard	Type of Steel	Hardness
JIS	S75C	HV450 ~ 500
	S78C	HV500 ~ 550

Sorbite structure

Hardness: HRC40 ~ 55

Tensile strength: 1,200 ~ 1,800N/mm²

Elongation: 4% ~ 10%



PT × 400

■ 机械性能和硬度要求

MECHANICAL PROPERTIES AND HARDNESS REQUIREMENTS

Steel designation	Delivery condition							
Name	annealed(+A) or annealed and skin passed(+LC)				cold rolled (+CR)		quenched and tempered (+QT)	
	R _{p0.2} N/mm ² max	R _m N/mm ² max	A80% min	HV max	R _m N/mm ² max	HV max	R _m N/mm ²	HV
C50S	470	580	17	175	1050	290	1050 to 1650	335 to 510
C55S	480	600	17	185	1070	300	1100 to 1700	340 to 520
C60S	495	620	17	195	1100	305	1150 to 1750	345 to 530
C67S	510	640	16	200	1140	315	1200 to 1900	370 to 580
C75S	510	640	15	200	1170	320	1200 to 1900	370 to 580
C85S	535	670	15	210	1190	325	1200 to 2000	370 to 600
C90S	545	680	14	215	1200	325	1200 to 2100	370 to 600
C100S	550	690	13	220	1200	325	1200 to 2100	370 to 630
C125S	600	740	11	230	1200	325	1200 to 2100	370 to 630
48Si7	580	720	13	225	—	—	1200 to 1700	370 to 520
56Si7	600	740	12	230	—	—	1200 to 1700	370 to 520
51CrV4	550	700	13	220	—	—	1200 to 1800	370 to 550
80CrV2	580	720	12	225	—	—	1200 to 1800	370 to 550
75Ni8	540	680	13	210	—	—	1200 to 1800	370 to 550
125Cr2	590	750	11	235	—	—	1300 to 2100	405 to 630
102Cr6	590	750	11	235	—	—	1300 to 2100	405 to 630