



Quality Cold Heading Wire into Next Generation

Steel wire for cold heading

C.H.Q Wire (steel wire for cold heading & forging) produced by B2K guarantees its quality and excellent processing feature through such processes as oxidation coating, precise wire drawing, heat treatment of raw materials by hot roll so that bolts, nuts and screw products are easy for cold forging. The steel wire is secured with its outstanding process and other quality features to be used for sophisticated parts linking with automobile, machinery, electronics, aircraft, etc.



Classification of Standard

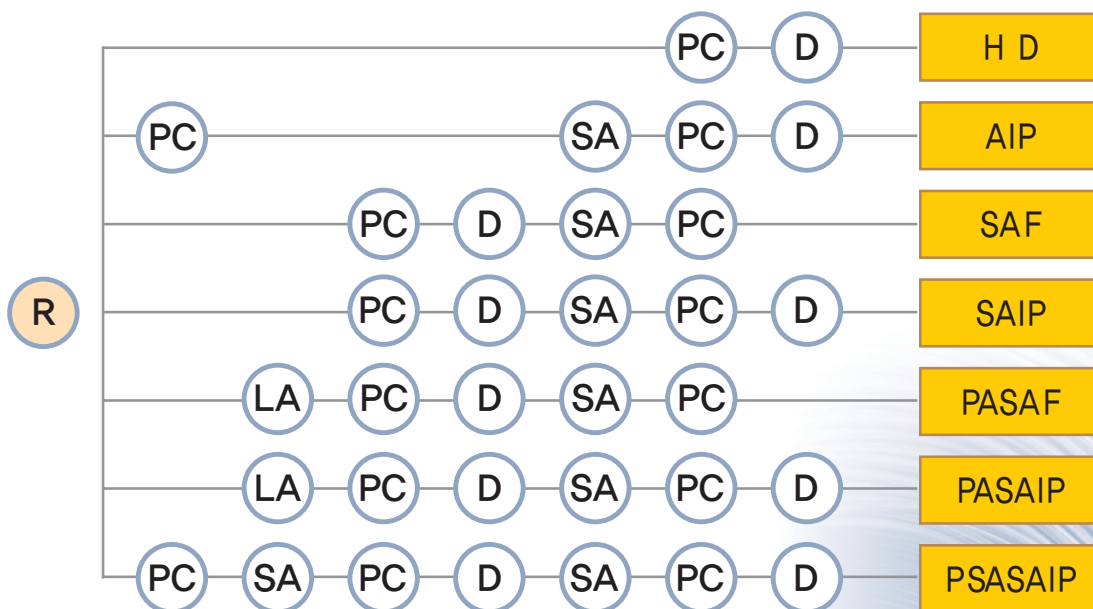
1) JIS Specification

Designation	Symbol of indicallon	Material	Application
Low Carbon Seel Wire Rod	SWRM	SWRM 6/10	Screw, Wire nail, coupling wire
Carbon Steel Wire Rod for Machine Structural Use	S X X C	S10C, S15C, S20C	Hoxagon Bolt and Nut, Shaft
Carbon Steel Wire Rod for Cold Heading and Cold Forging	SWRCH	SWRCH 6A/8A	Electronic wire, Screw
		SWRCH 10A/ 12A	Bolt and Nut
		SWRCH 18A/22A	Tapping Screw
		SWRCH 25K	Bolt and Nut
		SWRCH 38K	Bolt and Nut
		SWRCH 45K	Bolt and Nut
Chromium Steel Wire Rod	SCr	SCr 420	High-tensile Bolt for Construcion
Chromium-molybdenum Steel Wire Rod	SCM	SCM 415/420	High-tech parts(Piston pin)
		SCM 435/440	High-tensile Bolt and Nut for Automobile
Nickel Chromium-molybdenum Steel Wire Rod	SNCM	SNCM 220	High-tensile Bolt for Aircraft
		SNCM 420	
Manganese Steel Wire Rod for Machine Structure Use	SMn	SMn 443	Socket-head Bolt
High Carbon Chromium-Bearing Steel Wire Rod	SUJ	SUJ2	Roller and Bearing

2) AISI Specification

Designation	Symbol of indicallon	Material	Application
Carbon Steel	10 X X	AISI 1010	Bolt and Nut
		AISI 1050	
	12 X X	AISI 1212	Parts for Cutting
	15 X X	AISI 1541	High-tensile Bolt
Alloy Steel	13 X X	AISI 1340	High-tensile Bolt
	40 X X	AISI 4037	Socket - head Bolt
	41 X X	AISI 4135	High-tensile Bolt and Nut for Automobile
		AISI 4140	
	51 X X	AISI 5120	High-tensile Bolt for Construction
	87 X X	AISI 8740	High-tensile Bolt for Aircraft
	5 X X X X	AISI 52100	Roller and Ball-bearing
Additive Steel	X X B X X	AISI 10B21	High-tensile Bolt
		AISI 51B20	
	X X L X X	AISI 12L14	Bolt for Cutting

Processing chart



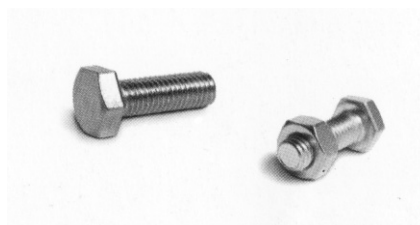
R	Wire Rod
PC	Pickling & Coating
D	Drawing
LA	Low Temperature Annealing
RA	Regular Annealing
SA	Spheroidized Annealing

HD	Hard Drawn
SA Rod	Spheroidized Annealed Rod
AIP	Annealed In Process
SAPP	Spheroidized Annealed Pickled & Phosphate Coated
SAF	Spheroidized Annealed at Finished size
SAIP	Spheroidized Annealed in Process
PASAF	Pre-Annealed SAF
PASAIP	Pre-Annealed SAIP

JIP Specification

Carbon Steel Wire Rod For Cold Heading

Symbol of Class	Chemical Composition(%)					
	C	Si	Mn	P (Max)	S (Max)	Al (Max)
SWRCH 6A	0.08max	0.10 max	0.60 max	0.030	0.035	0.02
SWRCH 8A	0.10 max	0.10 max	0.60 max	0.030	0.035	0.02
SWRCH 10A	0.08-0.13	0.10 max	0.30-0.60	0.030	0.035	0.02
SWRCH 12A	0.10-0.15	0.10 max	0.30-0.60	0.030	0.035	0.02
SWRCH 15A	0.13-0.18	0.10 max	0.30-0.60	0.030	0.035	0.02
SWRCH 16A	0.13-0.18	0.10 max	0.60-0.90	0.030	0.035	0.02
SWRCH 18A	0.15-0.20	0.10 max	0.60-0.90	0.030	0.035	0.02
SWRCH 19A	0.15-0.20	0.10 max	0.70-1.00	0.030	0.035	0.02
SWRCH 20A	0.18-0.23	0.10 max	0.30-0.60	0.030	0.035	0.02
SWRCH 22A	0.18-0.23	0.10 max	0.70-1.00	0.030	0.035	0.02
SWRCH 10K	0.08-0.13	0.10-0.35	0.30-0.60	0.030	0.035	-
SWRCH 12K	0.10-0.15	0.10-0.35	0.30-0.60	0.030	0.035	-
SWRCH 15K	0.13-0.18	0.10-0.35	0.30-0.60	0.030	0.035	-
SWRCH 16K	0.13-0.18	0.10-0.35	0.60-0.90	0.030	0.035	-
SWRCH 17K	0.15-0.20	0.10-0.35	0.30-0.60	0.030	0.035	-
SWRCH 18K	0.15-0.20	0.10-0.35	0.60-0.90	0.030	0.035	-
SWRCH 20K	0.18-0.23	0.10-0.35	0.30-0.60	0.030	0.035	-
SWRCH 22K	0.18-0.23	0.10-0.35	0.70-1.00	0.030	0.035	-
SWRCH 24K	0.19-0.25	0.10-0.35	1.35-1.65	0.030	0.035	-
SWRCH 25K	0.22-0.28	0.10-0.35	0.30-0.60	0.030	0.035	-
SWRCH 27K	0.22-0.28	0.10-0.35	1.20-1.50	0.030	0.035	-
SWRCH 30K	0.27-0.33	0.10-0.35	0.60-0.90	0.030	0.035	-
SWRCH 33K	0.30-0.36	0.10-0.35	0.60-0.90	0.030	0.035	-
SWRCH 35K	0.32-0.38	0.10-0.35	0.60-0.90	0.030	0.035	-
SWRCH 38K	0.35-0.41	0.10-0.35	0.60-0.90	0.030	0.035	-
SWRCH 40K	0.37-0.43	0.10-0.35	0.60-0.90	0.030	0.035	-
SWRCH 41K	0.38-0.44	0.10-0.35	1.35-1.65	0.030	0.035	-
SWRCH 43K	0.40-0.46	0.10-0.35	0.60-0.90	0.030	0.035	-
SWRCH 45K	0.42-0.48	0.10-0.35	0.60-0.90	0.030	0.035	-
SWRCH 48K	0.45-0.51	0.10-0.35	0.60-0.90	0.030	0.035	-
SWRCH 50K	0.47-0.53	0.10-0.35	0.60-0.90	0.030	0.035	-



Specification

JIP Specification

Carbon Steel For Machine Structural Use

Symbol of Class	Chemical Composition(%)				
	C	Si	Mn	P (Max)	S (Max)
S 10C	0.18-0.13	0.15-0.35	0.30-0.60	0.030	0.035
S 12C	0.10-0.15	0.15-0.35	0.30-0.60	0.030	0.035
S 15C	0.13-0.18	0.15-0.35	0.30-0.60	0.030	0.035
S 17C	0.15-0.20	0.15-0.35	0.30-0.60	0.030	0.035
S 20C	0.18-0.23	0.15-0.35	0.30-0.60	0.030	0.035
S 22C	0.20-0.25	0.15-0.35	0.30-0.60	0.030	0.035
S 25C	0.22-0.28	0.15-0.35	0.30-0.60	0.030	0.035
S 28C	0.25-0.31	0.15-0.35	0.60-0.90	0.030	0.035
S 30C	0.27-0.33	0.15-0.35	0.60-0.90	0.030	0.035
S 33C	0.30-0.36	0.15-0.35	0.60-0.90	0.030	0.035
S 35C	0.32-0.38	0.15-0.35	0.60-0.90	0.030	0.035
S 38C	0.35-0.41	0.15-0.35	0.60-0.90	0.030	0.035
S 40C	0.37-0.43	0.15-0.35	0.60-0.90	0.030	0.035
S 43C	0.40-0.46	0.15-0.35	0.60-0.90	0.030	0.035
S 45C	0.42-0.48	0.15-0.35	0.60-0.90	0.030	0.035
S 48C	0.45-0.51	0.15-0.35	0.60-0.90	0.030	0.035
S 50C	0.47-0.53	0.15-0.35	0.60-0.90	0.030	0.035
S 53C	0.50-0.56	0.15-0.35	0.60-0.90	0.030	0.035
S 55C	0.52-0.58	0.15-0.35	0.60-0.90	0.030	0.035
S 58C	0.56-0.61	0.15-0.35	0.60-0.90	0.030	0.035



JIP Specification

Alloy Steel

Symbol of Class		Chemical Composition(%)											
		C	Si	Mn	P	S	Ni	Cr	Mo				
Ni-Mo	SNCM 220	0.17-0.23	0.15-0.35	0.60-0.90	0.030 MAX	S 0.030MAX	0.40-0.70	0.40-0.65	0.15-0.30				
	SNCM 240	0.38-0.43		0.70-1.00			1.60-2.00						
	SNCM 415	0.12-0.18		0.40-0.70				Cu 0.030MAX		2.80-3.20	1.40-1.80		
	SNCM 420	0.17-0.23		0.60-1.00									
	SNCM 431	0.27-0.35										3.00-3.50	1.00-1.50
	SNCM 439	0.36-0.43				2.50-3.50	2.50-3.50						
	SNCM 447	0.44-0.50											
	SNCM 616	0.13-0.20						0.40-0.60					
	SNCM 625	0.20-0.30		0.15-0.30									
	SNCM 630	0.25-0.35								0.50-0.70			
SNCM 815	0.12-0.18	0.30-0.60	4.00-4.50		0.15-0.30								
Cr	SCr 415	0.13-0.18	0.15-0.35		0.60-0.85	0.030 MAX	0.030 MAX		0.25MAX		0.90-1.20	Cu 0.30Max	
	SCr 420	0.18-0.23											
	SCr 430	0.28-0.33											
	SCr 435	0.33-0.38											
	SCr 440	0.38-0.43											
	SCr 445	0.43-0.48											
Cr-Mo	SCM 415	0.13-0.18	0.15-0.35	0.60-.085	0.030 MAX	0.030 MAX	Ni 0.25MAX	0.90-1.20	0.15-0.30				
	SCM 418	0.16-0.21		0.70-1.00						1.00-1.50			
	SCM 420	0.18-0.23		0.60-0.85				Cu 0.30MAX			0.90-1.20		
	SCM 421	0.17-0.23		0.30-0.60								0.35-0.45	
	SCM 430	0.28-0.33		0.60-.085									
	SCM 432	0.27-0.37											
	SCM 435	0.33-0.38											
	SCM 440	0.38-0.43											
	SCM 445	0.43-0.48											
	SCM 822	0.20-0.25											

Bearing Steel

Designation	Chemical Composition(%)							Others
	C	Si	Mn	P	S	Cr	Mo	
SUJ 1	0.95-1.10	0.15-0.35	0.50max.	0.025 max.	0.025 max.	0.90-1.20	0.08 max.	Cu:0.20 max.
SUJ2	0.95-1.10	0.15-0.35	0.50max.	0.025 max.	0.025 max.	1.30~1.60	0.08 max.	
SUJ3	0.95-1.10	0.40-0.70	0.90~1.15	0.025 max.	0.025 max.	0.90~1.20	0.08 max.	
SUJ4	0.95-1.10	0.15-0.35	0.50max.	0.025 max.	0.025 max.	1.30~1.60	0.10~0.25	Ni:0.25 max.
SUJ5	0.95-1.10	0.40-0.70	0.90~1.15	0.025 max.	0.025 max.	0.90~1.20	0.10~0.25	

Specification

AISI(SAE) Specification

Carbon Steel

Steel Designation AISI or SAE	UNS Number	Chemical Composition(%)			
		C	Mn	P-MAX	S-MAX
1005	G 10050	0.06 max	0.35 max	0.040	0.050
1006	G 10060	0.08 max	0.25-0.40		
1008	G 10080	0.10 max	0.30-0.50		
1010	G 10100	0.08-0.13	0.30-0.60		
1012	G 10120	0.10-0.15	0.30-0.60		
1013	G 10130	0.11-0.16	0.50-0.80		
1015	G 10150	0.13-0.18	0.30-0.60		
1016	G 10160	0.13-0.18	0.60-0.90		
1017	G 10170	0.15-0.20	0.30-0.60		
1019	G 10190	0.15-0.20	0.70-1.00		
1020	G 10200	0.18-0.23	0.30-0.60		
1021	G 10210	0.18-0.23	0.60-0.90		
1022	G 10220	0.18-0.23	0.70-1.00		
1023	G 10230	0.20-0.25	0.30-0.60		
1025	G 10250	0.22-0.28	0.30-0.60		
1026	G 10260	0.22-0.28	0.60-0.90		
1029	G 10290	0.25-0.31	0.60-0.90		
1030	G 10300	0.28-0.34	0.60-0.90		
1035	G 10350	0.32-0.38	0.60-0.90		
1037	G 10370	0.32-0.38	0.70-0.10		
1038	G 10380	0.35-0.42	0.60-0.90		
1039	G 10390	0.37-0.44	0.70-1.00		
1040	G 10400	0.37-0.44	0.60-0.90		
1042	G 10420	0.40-0.47	0.60-0.90		
1043	G 10430	0.40-0.47	0.70-1.00		
1044	G 10440	0.43-0.50	0.30-0.60		
1045	G 10450	0.43-0.50	0.60-0.90		
1046	G 10460	0.43-0.50	0.70-1.00		
1049	G 10490	0.46-0.53	0.60-0.90		
1050	G 10500	0.48-0.55	0.60-1.90		
1053	G 10530	0.48-0.55	0.70-1.00		
1055	G 10550	0.50-0.60	0.60-0.90		
1060	G 10600	0.55-0.65	0.60-0.90		
1065	G 10650	0.60-0.70	0.60-0.90		
1069	G 10690	0.65-0.75	0.40-0.70		

AISI (SAE) Specification

Carbon Steel

Steel Designation AISI or SAE	UNS Number	Chemical Composition(%)			
		C	Mn	P-MAX	S-MAX
1513	G 15130	0.10-0.16	1.10-1.40	0.040	0.050
1522	G 15220	0.18-0.24	1.10-1.40		
1524	G 15240	0.19-0.25	1.35-1.65		
1526	G 15260	0.22-0.29	1.10-1.40		
1527	G 15270	0.22-0.29	1.20-1.50		
1536	G 15360	0.30-0.37	1.20-1.50		
1541	G 15410	0.36-0.44	1.35-1.65		
1548	G 15480	0.44-0.52	1.10-1.40		
1551	G 15510	0.45-0.56	0.85-1.15		
1552	G 15520	0.47-0.55	1.20-1.50		
1561	G 15610	0.55-0.65	0.75-1.05		
1566	G 15660	0.60-0.71	0.85-1.15		

Alloy Steel

Steel Designation AISI or SAE	UNS Number	Chemical Composition(%)							
		C	Mn	P-MAX	S-MAX	Si	Ni	Cr	Mo
1330	G 13300	0.28-0.33	0.60-1.90	0.035	0.040	0.15 - 0.35	-	-	-
1335	G 13350	0.33-0.38	0.60-1.90				-	-	-
1340	G 13400	0.38-0.43	0.60-1.90				-	-	-
1345	G 13450	0.43-0.48	0.60-1.90				-	-	-
4023	G 40230	0.20-0.25	0.70-0.90				-	-	0.20-0.30
4024	G 40240	0.20-0.25	0.70-0.90				-	-	0.20-0.30
4027	G 40270	0.25-0.30	0.70-0.90				-	-	0.20-0.30
4028	G 40280	0.25-0.30	0.70-0.90				-	-	0.20-0.30
4032	G 40320	0.30-0.35	0.70-0.90				-	-	0.20-0.30
4037	G 40370	0.35-0.40	0.70-0.90				-	-	0.20-0.30
4042	G 40420	0.40-0.45	0.70-0.90				-	-	0.20-0.30
4047	G 40470	0.45-0.50	0.70-0.90				-	-	0.20-0.30
4118	G 41180	0.18-0.23	0.70-0.90				-	0.40-0.60	0.08-0.15
4130	G 41300	0.28-0.33	0.40-0.60				-	0.80-1.10	0.15-0.25
4135	G 41350	0.33-0.38	0.70-0.90				-	0.80-1.10	0.15-0.25
4137	G 41370	0.35-0.40	0.70-0.90				-	0.80-1.10	0.15-0.25
4140	G 41400	0.38-0.43	0.75-1.00				-	0.80-1.10	0.15-0.25
4142	G 41420	0.40-0.45	0.75-1.00				-	0.80-1.10	0.15-0.25
4145	G 41450	0.43-0.48	0.75-1.00				-	0.80-1.10	0.15-0.25
4147	G 41470	0.45-0.50	0.75-1.00				-	0.80-1.10	0.15-0.25
4150	G 41500	0.48-0.53	0.75-1.00				-	0.80-1.10	0.15-0.25
4161	G 41610	0.56-0.64	0.75-1.00				-	0.70-0.90	0.25-0.35
4320	G 43200	0.17-0.22	0.45-0.65				1.65-2.00	0.40-0.60	0.20-0.30
4340	G 43400	0.38-0.43	0.60-0.80				1.65-2.00	0.70-0.90	0.20-0.30
4422	G 44220	0.20-0.25	0.70-0.90				-	-	0.35-0.45
4427	G 44270	0.24-0.29	0.70-0.90				-	-	0.35-0.45
4617	G 46170	0.15-0.20	0.45-0.65				1.65-2.00	-	0.20-0.30
4620	G 46200	0.17-0.22	0.45-0.65				1.65-2.00	-	0.20-0.30
4626	G 46260	0.24-0.29	0.45-0.65				0.70-1.00	-	0.15-0.25
4720	G 47200	0.17-0.22	0.50-0.70				0.90-1.20	0.35-0.55	0.15-0.25
4815	G 48150	0.13-0.18	0.40-0.60				3.25-3.75	-	0.20-0.30
4817	G 48170	0.15-0.20	0.40-0.60				3.25-3.75	-	0.20-0.30
4820	G 48200	0.18-0.23	0.50-0.70				3.25-3.75	-	0.20-0.30
5115	G 51150	0.13-0.18	0.70-0.90				-	0.70-0.90	-
5117	G 51170	0.15-0.20	0.70-0.90				-	0.70-0.90	-
5120	G 51200	0.17-0.22	0.70-0.90				-	0.70-0.90	-
5130	G 51300	0.28-0.33	0.70-0.90				-	0.80-1.00	-
5132	G 51320	0.30-0.35	0.60-0.80				-	0.75-1.00	-
5135	G 51350	0.33-0.38	0.60-0.80				-	0.80-1.05	-
5140	G 51400	0.38-0.43	0.70-0.90				-	0.70-0.90	-

Specification

Hardness Conversion Table

BRINELL HARDNESS 10mm BALL 3000Kg LOAD		VICKERS HARD- NESS	ROCKWELL HARDNESS				ROCKWELL SUPER HARDNESS DIAMOND INDENTER			SHORE HARD- NESS	TENSILE STRENGTH MPa (kgf/mm)
STEEL BALL	CARBIDE BALL		SCALE "A" 60 kgf LOAD DIAMOND INDENTER	SCALE "B" 100 kgf LOAD 1/16" STEEL BALL	SCALE "C" 150 kgf LOAD DIAMOND INDENTER	SCALE "D" 100 kgf LOAD DIAMOND INDENTER	SCALE 15N 15Kgf LOAD	SCALE 30N 30Kgf LOAD	SCALE 40N 40Kgf LOAD		
477	-	516	75.9	-	50.3	63.2	85.6	68.7	55.2	-	1780(181)
-	-	508	75.6	-	49.6	62.7	85.3	68.2	54.5	-	1740(177)
-	477	508	75.6	-	49.6	62.7	85.3	68.2	54.5	66	1740(177)
461	-	496	75.1	-	48.8	61.9	84.9	67.4	53.5	-	1680(172)
-	-	491	74.9	-	48.5	61.7	84.7	67.2	43.2	-	1670(170)
-	461	491	74.9	-	48.5	61.7	84.7	67.2	53.2	65	1670(170)
444	-	474	74.3	-	47.2	61.0	84.1	66.0	51.7	-	1595(162)
-	-	472	74.2	-	47.1	60.8	84.0	66.8	51.5	-	1585(162)
-	444	472	74.2	-	47.1	60.8	84.0	65.8	51.5	63	1585(162)
429	429	455	73.4	-	45.7	59.7	83.4	64.6	49.9	61	1518(154)
415	415	440	72.8	-	44.5	58.8	82.8	63.5	48.4	59	1460(149)
401	401	425	72.0	-	43.1	57.8	82.0	62.3	46.9	58	1390(142)
383	383	410	71.4	-	41.8	56.8	81.4	61.1	45.3	56	1330(136)
325	325	386	70.6	-	40.0	55.7	80.6	59.9	43.6	54	1270(129)
363	363	383	70.0	-	39.1	54.6	80.0	58.7	42.0	52	1220(124)
352	352	373	69.3	(110.0)	37.9	53.8	79.3	57.6	40.5	51	1180(120)
341	341	360	68.7	(109.0)	36.6	52.8	78.6	65.4	39.1	50	1130(115)
331	331	360	68.1	(108.5)	35.5	51.9	78.0	55.4	37.8	48	1095(112)
321	321	339	67.5	(108.0)	34.3	51.0	77.3	54.3	36.4	47	1060(108)
311	311	328	66.9	(107.5)	33.1	50.0	76.7	53.3	34.4	46	1025(105)
302	302	319	66.3	(107.0)	32.1	49.3	76.1	52.2	33.8	45	1005(103)
293	293	309	65.7	(106.0)	30.9	18.3	75.5	51.2	51.2	43	970(99)
215	215	301	65.3	(105.5)	29.9	47.6	75.0	50.3	31.2	-	950(97)
277	277	232	64.6	(104.5)	28.8	46.7	74.4	49.3	29.9	41	925(94)
289	289	234	64.1	(104.0)	27.6	45.9	73.7	48.3	28.5	40	895(91)
229	229	276	63.6	(103.0)	26.6	45.0	73.1	48.3	27.3	39	875(89)
223	223	269	63.3	(102.0)	25.4	44.2	72.5	46.2	26.0	38	850(86)
217	217	251	62.5	(101.0)	24.2	43.2	71.7	45.1	24.5	37	825(84)
212	212	253	61.8	(100.0)	22.8	42.0	70.9	43.9	22.8	36	800(82)
207	207	247	61.4	99.0	21.7	41.4	70.3	42.9	21.5	35	785(80)
201	201	241	60.8	98.2	20.5	40.5	69.7	41.9	20.1	34	765(78)
197	197	234	-	97.3	(18.8)	-	-	-	-	-	-
192	192	223	-	86.4	(17.5)	-	-	-	-	33	725(74)
187	187	222	-	95.5	(16.0)	-	-	-	-	-	705(72)
183	183	218	-	94.6	(15.2)	-	-	-	-	32	690(70)
179	179	212	-	93.8	(13.8)	-	-	-	-	31	675(69)
174	174	207	-	92.8	(12.7)	-	-	-	-	30	655(67)
170	170	202	-	91.9	(11.5)	-	-	-	-	29	640(65)
167	167	196	-	90.7	(10.0)	-	-	-	-	-	620(63)
153	153	192	-	90.0	(9.0)	-	-	-	-	28	616(63)
156	156	188	-	89.0	(8.0)	-	-	-	-	27	600(61)
149	149	182	-	87.8	(6.4)	-	-	-	-	-	585(60)
143	143	178	-	86.8	(5.4)	-	-	-	-	26	570(58)
137	137	175	-	86.0	(4.4)	-	-	-	-	-	560(60)
163	163	171	-	85.0	(3.3)	-	-	-	-	25	545(56)
156	156	163	-	82.9	(0.9)	-	-	-	-	-	525(53)
149	149	156	-	80.8	-	-	-	-	-	23	505(51)
143	143	150	-	78.7	-	-	-	-	-	22	490(50)
137	137	143	-	76.4	-	-	-	-	-	21	460(47)
133	133	137	-	74.0	-	-	-	-	-	-	460(46)
126	126	132	-	72.0	-	-	-	-	-	20	435(44)
121	121	127	-	69.8	-	-	-	-	-	19	415(42)
116	116	122	-	67.6	-	-	-	-	-	18	400(41)
111	111	117	-	65.7	-	-	-	-	-	15	385(39)

Office

#1033 - 47 Jang Rim - 1 Dong, Sa Ha - Gu, Busan, Korea

TEL.+82-51-265- 4740

FAX.+82-51-265- 4741

Email : b2k@b2kwire.co.kr

www.b2kwire.co.kr

Factory

328, Sanmak-dong, Yangsan city, Gyeongsang-namdo

TEL.+82-55-388- 4001

FAX.+82-55-383-7377

