



**Perfection Spring & Stamping Corp.**  
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**Raw Material Type, Alloy, & Finishes By Manufacturing Method**

**1. Punch Press Department & Slide Department**

**Low Carbon Steel, Cold Rolled Strip Steel, Cold Rolled Steel – Oiled, hot rolled steel, hot rolled pickled Oiled,**

1010	Commercial Finish	CRS-AKDQ
1020	CRS 1008 1010	Edge Rolling
1030	CRS 1008/1010	Flat Wire
1050	CRS 1008-1010	Hot Rolled Pickle & Oiled
1095	CRS 1010	HRP&O
1008 1010	CRS 1020	HRPO
1008-1010	CRS 1030	HSLA
AKDQ	CRS 1050	Prime Quality
Aluminum Killed	CRS 1095	Skived Edge
Aluminum Killed, Soft, Ductile	CRS AKDQ	
Annealed	CRS CQ	

**Steel Finishes**

Commercial Bright Finish.	G12	Hot Dipped AKDQ
Commercial Finish	Galvanized	Hot Dipped CQ
Electrogalv	Galvanneal	Luster Finish
Electro-Galv	Galvannealed	No.1 Finish
Electrogalv AKDQ	Hot Dip	No.2 Finish
Electro-Galv AKDQ	Hot Dip AKDQ	No.3 Finish - Mirror Finish
Electrogalvanized	Hot Dip CQ	
Electrogalvanized AKDQ	Hot Dipped	

## **Tinplate**

T4  
Tin Plate  
Tin Plt

## **Tinplate Finishes**

Bright Hot Dipped Finish.  
Electro Bright Reflow  
Electro Matte Dull Finish.

## **Spring Steels**

1008	50 Carbon	Crass 1074
1010	75 Carbon	Crass 1075
1050	95 Carbon	Crass 1095
1074	AISI -- SAE 4130	Crass C1055
1075	Blue Clock	High Carbon
1095	Blue Tempered	Martinsite
1008 1010	Cold Rolled Annealed Spring Steel	Special Temper
1008/1010	CRASS	
1008-1010	Crass 1050	

## **Stainless Steel**

17/7-PH  
¼ Hard Temper  
½ Hard Temper  
¾ Hard Temper  
Condition A  
Condition C  
Full Hard Temper  
NI SI

Nickel  
Nickel Silver  
NI-SI  
T301  
T302  
T304  
T430  
T430 BA

Type 301  
Type 302  
Type 304 Annealed  
Type 316  
Type 410 Annealed  
Type 410 Tempered  
Type 420 Annealed  
Type 430 Annealed

## **Stainless Steel Finishes**

No. 1 Finish  
No. 2B Finish  
No. 2D Finish

No. 3 Finish  
No. 4 Finish  
No. 6 Finish

No. 7 Finish  
No. 8 Finish

## **Brass - Phosphor Bronze**

¼ Hard Temper

½ Hard Temper

¾ Hard Temper

Brass 70/30

Brass CDA 230

Brass CDA 260

Bronze Grade A 5%

Bronze Grade C 8%

Drawing

Electrolytic Copper

Fatigue Strength P.S.I. - Hard and Aged

Fatigue Strength P.S.I. - Spring Temper

Nickel Silver 18%

Phos Bronze

Phos-Bronze

Phosphorus Bronze

Soft

Spring Temper

Tensile Strength P.S.I. - Hard and Aged

## **Copper & Alloys**

260

¼ Hard Temper

½ Hard Temper

¾ Hard Temper

102 OF Copper

110 ETP Copper

Berylco

Beryllium Copper

Beryllium Copper 172

Beryllium Copper 173

Beryllium Copper Alloy 25

C 260

C194 HSM

C260

Copper Tin

Drawing

OEF Copper

Plated Copper

SK5

Soft

Spring Temper

## **Copper Base Alloys Finishes**

Acid Dipped-Dry Rolled Finish.

Bright Dipped Finish

Buffed or Polished Surface

Cold Rolled Finish

Dry Rolled Finish

Hot Rolled Finish

## Aluminum

3003	5052 0	Alloy 5052, Temper 0, H32, H34, H38
5052	5052 H32	Alloy 6061, Temper 0, Tempered
1070 H14	5052 Temper 0	Alum
1100 H14	Alloy 1100, Temper 0, H12, H14, H12	Aluminum Alloy
3003 H34	Alloy 3003, Temper 0, H12, H 4, H16, H18	ASTM-B209
3003 H41	Alloy 3105, Temper H12, H14, H16, H18	BLKAN
3003-0	Alloy 5005, Temper 0, H32, H34	

## Aluminum Finishes

Anodized	Bright One Side.	Matte
Anodizing	Brushed	Mill Finish
Bright Both Sides.	Commercially Bright.	Painted

## Raw Material Edge Types

### Copper Base Alloys

slit  
sheared

sawed  
machined

edge rolled

### Strip Steels and Stainless Strip

No. 1 Edge  
No. 2 Edge  
No. 3 Edge  
No. 4 Edge  
No. 5 Edge

No. 6 Edge  
Number One Edge  
Number Two Edge  
Number Three Edge  
Number Four Edge

Number Five Three  
Edge  
Number Six Edge

## Coated Metals

Aluminized  
Aluminized - Type 2  
Aluminized - Type 1  
Electro-Galv.

Electro-Galvanized  
Electrolytic Tin  
GalvAnnealed  
Galv-Annealed

MartInsite  
NI-Terne  
Terne Plate  
Tinplate

## Tempers

¼ Hard Temper  
½ Hard Temper  
¾ Hard Temper  
Draw Quality  
Drawing Quality  
Quarter Hard Temper  
Half Hard Temper

Three Quarter Hard Temper  
Full Hard Temper  
Number 2 Temper  
Number 3 Temper  
Number 4 Temper  
Number 5 Temper  
T1

T-2  
T-3  
T-4  
T-5  
T-5 CA  
T-6  
T-6 CA

## Flat Stock Gages - Steel, Galvanized Steel, Aluminum

Gauge (ga)	Standard Steel Thickness (inches)	Galvanized Steel Thickness (inches)	Aluminum Thickness (inches)
	.250		
3	0.2391		0.2294
6	0.1943		0.1620
7	0.1793		0.1443
8	0.1644		0.1285
9	0.1495	0.1532	0.1144
10	0.1345	0.1382	0.1019
11	0.1196	0.1233	0.0907
12	0.1046	0.1084	0.0808
13	0.0897	0.0934	0.0720
14	0.0747	0.0785	0.0641
15	0.0673	0.0710	0.0571
16	0.0598	0.0635	0.0508
17	0.0538	0.0575	0.0453
18	0.0478	0.0516	0.0403
19	0.0418	0.0456	0.0359
20	0.0359	0.0396	0.0320
21	0.0329	0.0366	0.0285
22	0.0299	0.0336	0.0253
23	0.0269	0.0306	0.0226
24	0.0239	0.0276	0.0201
25	0.0209	0.0247	0.0179
26	0.0179	0.0217	0.0159
27	0.0164	0.0202	0.0142
28	0.0149	0.0187	0.0126
29	0.0135	0.0172	0.0113
30	0.0120	0.0157	0.0100
31	0.0105	0.0142	0.0089
32	0.0097	0.0134	0.0080
33	0.0090		0.0071
34	0.0082		0.0063
35	0.0075		0.0056

## 2. Raw Materials Used in Coiling Department & Slide Department

### Types of Wire

17-7	Chrome Silicon Valve Quality	Music Wire Phosphate Coated (DD)
17-7 Nickel Stainless Steel Wire	Chrome Silicon Valve Quality Spring Wire	Music Wire Tin
17-7 Soap Coated Stainless Steel Wire	Chrome Vanadium Spring Wire	Music Wire Tinned
Annealed and Off-temper Stainless Steel	Copper FH	Nickel Coated Stainless Steel Wire
ASTM	Copper Weld	Oil Temp
Basic	Copperweld	Oil Temp 1% Seam
Basic Galv	Flat Wire	Oil Temp 2% Seam
Basic Tin	Galvanized	Oil Temp 3% Seam
Basic Tinned	Galvanized Basic Low Carbon Wire	Oil Temp Class 2
Bezalpast	Galvanized Coated Music Wire	Oil Tempered Chrome Silicon Wire
Bezinal	Galvanized Hard Drawn Spring Wire	Oil Tempered Chrome Silicone Flat Wire
Bezinal Coated Hard Drawn Spring Wire	Galvanized Low Carbon Tag Wire	Oil Tempered Flat Wire
Bezinal Coated Music Wire	Galvanized Music Wire	Oil Tempered MB Spring Wire
Bi Metal	Galvanized Strand and Cable	Oil Tempered Regulator Wire
Bi Metal ASTM TM-1	Hard Drawn	Phosphate Coated Music Wire
Brass	Hard Drawn Music Based	Phosphate Coated Music Wire
Brass 1/2	HDMB	Round Wire
Brass 1/4	Inconel	Sandvik SAF 2205/2205SH
Brass 3/4	Low Carbon	Soap Coated Stainless Steel Wire
Brass Half Hard	Low Carbon Book Binding Wire	Square Wire
Brass Quarter Hard	Low Carbon Braiding Wire	Stainless 17-7 PH
Brass Spring	Low Carbon Shaped Wire	Stainless 17-7 PH Cond C
Brass Three Quarter Hard	Low Carbon Steel C1008	Stainless 17-7 PH Condition C
Bright Basic	Low Carbon Steel C1010	Stainless Square
Bright Basic Low Carbon Wire	Low Carbon Trapezoid Wire	Stainless Steel
Bright Hard Drawn Wire	Monel 400 Inconel	Stainless Steel - In All Tempers
C110	Music wire Bezinal	Stainless Steel Type 316 Wire
Carbon Steel	Music Wire Brass	Tin Coated Music Wire
Carbon Steel C1050	Music Wire CAD	Vacuum Melt Stainless Steel Medical Wire
Carbon Steel C1060	Music Wire Cadmium	Valve Quality
Chrome Silicon	Music Wire Corrostan	Vanadium

### Wire By ASTM Specification

ASTM Specification	Market Name	Description
ASTM A227	Hard Drawn Class 1 and 2	High Carbon steel spring wire drawn
ASTM A228	Music Wire	High Carbon steel spring wire drawn
ASTM A229	Oil Tempered Class 1 and 2	High Carbon steel spring wire Oil tempered
ASTM A230	Carbone Valve	High Carbon steel spring wire Oil tempered valve quality
ASTM A231	Chrome Vanadium	Alloy Spring Steel
ASTM A313	Stainless Steel Wire	Stainless Steel Series 3 and 6 wire (302/304, 316,17-7 PH)
ASTM A401/887	Chrome Silicone	Alloy Spring Steel
ASTM B159	Phosphore Bronze	Copper Alloy Wire
ASTM B197	Beryllium Copper	Beryllium Alloy Wire



## Wire Gauges

Wire Gage	Inches	Millimeters
0	0.3065	7.7851
1	0.2830	7.1882
2	0.2625	6.6675
3	0.2437	6.1900
4	0.2253	5.7226
5	0.2070	5.2578
6	0.1920	4.8768
7	0.1770	4.4958
8	0.1620	4.1148
9	0.1483	3.7668
10	0.1350	3.4290
11	0.1205	3.0607
12	0.1055	2.6797
13	0.0915	2.3241
14	0.0800	2.0320
15	0.0720	1.8288
16	0.0625	1.5875
17	0.0540	1.3716
18	0.0475	1.2065
19	0.0410	1.0414

Wire Gage	Inches	Millimeters
20	0.0348	0.8839
21	0.0317	0.8052
22	0.0286	0.7264
23	0.0258	0.6553
24	0.0230	0.5842
25	0.0204	0.5182
26	0.0181	0.4597
27	0.0173	0.4394
28	0.0162	0.4115
29	0.0150	0.3810
30	0.0140	0.3556
31	0.0132	0.3353
32	0.0128	0.3251
33	0.0118	0.2997
34	0.0104	0.2642
35	0.0095	0.2413
36	0.0090	0.2286
37	0.0085	0.2159
38	0.0080	0.2032
39	0.0075	0.1905