NEWCOMB SPRING CORP

Battery Contact Springs

Newcomb Spring manufactures springs for battery contacts and connectors for companies around the world. From simple conical wire springs made by CNC wire forming machines, to flat springs stamped and formed by progressive dies, we can provide your engineers with up front input on the best methods for manufacturing the parts that best fit your needs, from concept to high volume production.

The extensive array of wire forming and flat stock machinery within Newcomb's many plants includes some of the most sophisticated CNC spring making equipment available today. This gives us the ability to produce battery contact springs with legs that are dimensioned to fit your product in a way that can reduce both assembly costs as well as extra component costs. And if changes in the battery contact need to be made to accommodate an existing mating part, those changes can often be made with little or no additional cost. Of course, battery contact springs require a certain contact pressure to maintain proper conductivity through any possible oxidation on the contact surfaces. We can tell you what spring design will provide the forces your application requires, both with respect to wire size as well as configuration.

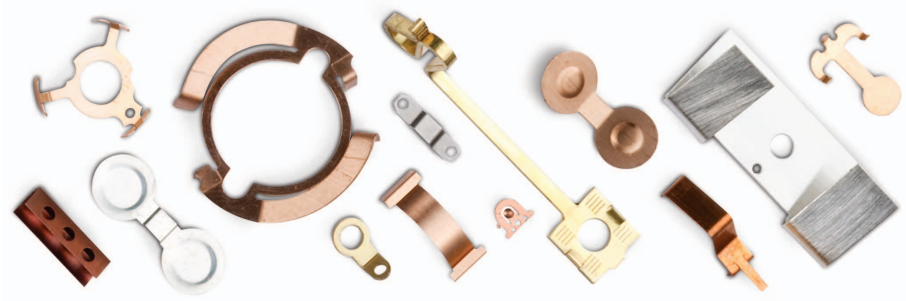
Specifications

Newcomb produces a variety of contacts for many battery sizes. Our most common are:

- ***AAA sized spring contacts ranging from .200 to .500 inches in diameter using wire gauge sizes of .016 to .025 inches.***
- ***AA sized spring contacts ranging from .375 to .700 inches in diameter using wire gauge sizes of .020 to .032 inches.***
- ***C-Cell sized spring contacts ranging from .750 to 1.0 inches in diameter using wire gauge sizes of .028 to .062 inches.***
- ***D-Cell sized spring contacts ranging from 1.0 to 1.5 inches in diameter using wire gauge sizes of .035 to .080 inches.***

Materials for Battery Contacts

We can assist in providing information on raw materials as well as the most cost effective plating solutions for conductivity, corrosion resistance, and solderability. Options include nickel plated music wire, which is the most common material used in AAA and AA batteries for consumer goods, to gold plated copper alloys used for more demanding military or medical applications. In some cases, pre-plated wire is preferable, but if post-plating of the parts is required, our network of approved plating companies stretches across the country.

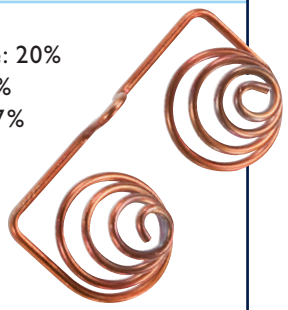


Secondary Operations

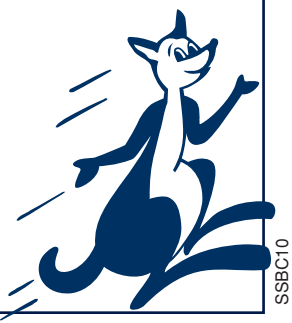
Newcomb's involvement in supplying the right parts to our customers continues beyond the production and finishing process. The proper packaging of parts that easily tangle and distort, such as conical wire springs, is crucial to your receiving parts that can be used right out of the box. We commonly use tacky board, layer packaging, and vacuum-formed trays to provide the appropriate level of packaging to suit your concerns. Additional services provided by Newcomb include pre-assembly of the spring into the battery holder, soldering the spring wire to a connector or contact, and automatic grinding and swaging operations.

Material Electrical Conductivity

Wire/Strip Conductivity Percentage of IACS



Carbon Steel Music Wire: 7%
Nickel Pre-Plated Music Wire: 20%
Hard Drawn Carbon Steel: 7%
Oil Tempered Carbon Steel: 7%
Valve Spring Wire: 7%
Chrome Vanadium: 7%
Chrome Silicon: 5%
302 Stainless Steel Wire: 2%
17-7 Stainless Steel Wire: 2%
NiCr Stainless Steel: 2%
Phosphor Bronze: 15%
Silicon Bronze (A): 7%
Silicon Bronze (B): 12%
Beryllium Copper: 21%
Spring Brass, CA260: 17%
Inconel® Alloy 600: 1.5%
Inconel® Alloy X750: 1%
Ni-Span-C® Alloy: 1.6%
Monel® Alloy 400: 3.5%



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