

Government Sales Review: Mueller Alligator Clips: Over 100 Years of Higher Standards



Mueller's biggest seller and claim to fame is the alligator clip invented by Ralph Mueller in 1908. Being the inventor of a device that is now so well represented in the electronic component market makes it hard to keep a reputation as being the "standard" for such an item.

When Federal Acquisition Regulation (FAR) standards were revised in 2014 to incorporate higher level standards in government solicitations, Mueller products were there to meet the challenge with our ISO 9001 certification, MIL-STD objectives and RoHS compliance in place.

Our [BU-60](#) line of alligator clips are still our bestselling item in both the government and private sectors.

I started with a basic Commercial Item Definition (a government classification) of an alligator clip from the [Electronic Engineering Directory](#).

They pointedly find it "interesting" that the alligator clip is never mentioned by name in the CID standard for electrical clips.

"It's interesting to note that the Department of Defense CID cited above does not use the term Alligator Clip, instead using the term electrical clip as the document title. However it does use the term crocodile clip, in addition to other terms for different clip types to define some of the particular styles. In other words, some including the government may not see a difference between an alligator clip or crocodile clip. Although there does seem to be a slight difference in the shape of the facing jaw."

EED Editor Noted; "Other than using an alligator clip to hook up to a power supply or battery, they are really not good for much else."

Being the manufacturer of such clips we would dispute two things:

1. Alligator and Crocodile clips have more than just semantic differences. Just as the reptile world notes the differences between these species, the electrical world also classifies these as two different style clips. GSA or General Services Administration CID document, states that "Crocodile clips are designated type CC (crocodile clip), alligator clips are designated types TCx (Test Clip), and other types of electrical clips have various other, unique designations". There are differences in the teeth and the jaws of the clips. You can find a square jawed crocodile clip but you will never see an alligator clip with a square jaw.
2. We would also dispute that alligator clips may not be good for much other than "hooking up to a power supply". These clips have evolved and are used in many useful and innovative ways and are still as relevant and widely used as they were when they were first invented. They also still merit a high rate of demand in government contracting.

Do Mueller alligator clips meet military expectations?

In trying to ascertain if our clips could still stand the test for being the industry standard, I started with a review of [Mil-Std A-A-59466](#) which encompasses the general specifications for electrical clips.

The spec for electrical clips encompasses power clips, power clips with lug, needle clips, mini test clips, crocodile clips, insulated clips, test clips with clamping ears, and battery clips. (And yes, it is true- Never once does it mention the original electrical clip AKA the alligator clip.)

However, In a bit of a revelation I found in the standard the following information:

7.6 Commercial products. As part of the market analysis and research effort, this CID was coordinated with the following manufacturers of commercial products. At the time of CID preparation and coordination, these manufacturers were known to have commercial products that would meet the requirements of this CID. (NOTE: This information should not be considered as a list of approved manufacturers or be used to restrict procurement to only the manufacturers shown.)

MFGR's CAGE

76545

MFGR's name and address

Mueller Electric Company

Phone number: (216) 771-5225

Facsimile number: (216) 771-3068

<http://www.muellerelectric.com>

In the Mil-Spec each section (-1 thru -15) shows Mueller parts as the standard for these clips.

Part number (P/N) supersession data. This CID supersedes the following MFGR's P/N's as shown. This information is being provided to assist in reducing proliferation in the Government inventory system.

TABLE II. P/N supersession data.

Dash number (see table I) AA59466-	MFGR's CAGE	MFGR's P/N <u>1/</u>
001	76545	BU-30C
002	76545	BU-60CS
003	76545	BU-60CHS
004	76545	BU-70CS
005	76545	BU-85C
006	76545	BU-45C
007	76545	BU-48C
008	76545	BU-27C
009	76545	BU-25C
010	76545	BU21CPN
011	76545	BU-11CPN
012	76545	BU-33C
013	76545	BU-50C
014	76545	BU-41CPN-VZZZ-2
015	76545	BU-41CPS-VZZZ-0

The chart above provides reference to the most significant clips that Mueller Electric invented and **still manufactures** today for use in both the government and private industry sectors.

- The Mueller **BU-30C** clip is referenced in the TCM category. This is the mini-alligator clip.
- The **BU-60** series of clips are the original alligator clips whose specifications have remained standard since its invention in 1908. TC and TCI, insulated and non-insulated test clips.
- The **BU-70** adds the crimp tail to the original clip. The original Mueller Alligator Clips assure that the teeth bite, springs hold and the plating lasts.
- The **BU-85** gets the designation as a crocodile clip. These have a crimp or screw connection and provide solid contact from the nesting teeth along the entire length of the jaw.
- The **BU-45** is Mueller's original PeeWee clip. The PeeWee is a scaled down multi-purpose clip which is RoHS compliant.
- The **BU-33** "Big Brute" is a welding grounding clamp with a lug for secure attachment. It is also RoHS compliant.
- The other multipurpose clip on this list is the **BU-27** and what we call a Geophone Clip. Its curved jaws clip securely onto seismograph rings.
- The **BU-48, BU-25 and BU-21** are all automotive clips.
- The **BU-50** is a meter testing clip. It is a Solid copper clip with a beryllium copper piercing needle in the top jaw.
- **BU-41** is our large battery clip.

The range of products referenced in this standard lists 15 of the original 18 clips that Mueller invented and still manufactures. It would appear that Mueller still retains the reputation for being the industry standard for alligator clips. Now over 100 years later we carry over 300 varieties of clips and insulators.

Mueller now offers a line of Marine Clips that should be of interest to government facilities that operate in coastal and marine environments

Salt water testing has shown that these clips will last up to five times longer than traditional steel or copper clips. These clips meet all Mil-Std specs of our original items and are available in the standard alligator clip, mini-battery clip, general purpose clip, and micro-alligator clip. These clips are solid copper and stainless steel construction and provide excellent corrosion resistance.

Mueller Products Simply Work for Government Applications

Mueller Electric now has 354 recognized National Stock Numbers which range from BNC Connector kits to our famous original alligator clip. We are an industry leader in the manufacture of electronic products and assemblies that include a wide range of clips, plugs, jacks, adapters, probes, plungers, grabbers. We also sell standard and custom test leads, patch cords and insulated test accessories. Along with a full line of OEM replacement probes, test leads and adapters. If your facility requires a custom cable assembly we specialize in building solutions to your exact specifications. We build our products to industry standards such as UL and CSA. You can use the form below to request an item from our sample assembly and prototype program.

At the present time the majority of our government sales are to the DLA Land and Maritime sector of the government with some sales to the Aviation Division. We are hoping to expand these offerings in the future and to solidify our commitment to providing these quality products to our government customers. Since 2015 Mueller has been concentrating on expanding the government sales division by showing that we can fulfill their needs on time and with the right products.