



# Specialized Tools



Following are a few specialized tools that will be useful in the installation of lightning protection system equipment. Many other tools, such as Channel Locks®, hammers, screwdrivers, box wrenches, etc., are likely in your inventory already. These additional tools will provide you added assistance as they are especially geared towards this type of equipment.



**#354 - Collapsible Cable Stand.** Stand is made entirely of steel but is lightweight, sturdy and durable. The stand is a big aid for small and large jobs as cable is unwound from the spool without getting tangled. Unit weight is approximately 9 lbs. ★



**#357 - Cable Cutters.** Cable cutter is specifically designed for use with copper and aluminum cables. Cutter is approximately 9" in length. ★



**#365 - Ground Rod Driver.** Driver is designed for driving ground rods into mother earth. The driver is much easier and safer to rather than a sledge hammer. The handle is a hollow pipe and slides up and down the rod. Driver is approximately 25" in length and weighs about 19 lbs. The driver offer a lower cost alternative to the more expensive electric drivers. ★



**#369 - Point Levels.** Level is satisfactory for use with any of our points or air terminals. The level is lightweight and small enough to carry in your pocket. ★

★ Denotes normally stocked item available for shipment within 48 hours. Items not stocked are available within 14 days.



Product Manufactured by: Independent Protection Co., Inc.  
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# Miscellaneous Grounding Equipment



**#383 - Ground Resistance Tester.** Tester is used for measuring the resistance of a grounding electrode or ground rod. The tester will provide the user with a three point fall of potential ground resistance field test for projects and installations where this is required. Unit is very compact, battery powered and comes in a convenient carrying case. Complete instructions are provided by the unit's manufacturer. ★



**#TGW-910-10 - Ground Test Well.** IPC offers a line of ground test wells when these are specified or required for certain installations. Ground test wells provide a permanent location for ease of inspecting and testing ohms resistance on ground rods. Our standard model (TGW-910-10) is fabricated from foam molded HDPE plastic for installation in grassy low traffic areas such as parks or golf courses. Physical size on this unit is 13" OD bottom x 10-1/2" height. Heavy-duty units are available when vehicular traffic is present such as parking lots and other areas. These units are made using specially formulated fiberglass and other polymer resins that provide exceptional strength and rigidity. This special formula is approximately 33% lighter than traditional concrete.



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# Adhesive Requirements

There are many different types of roofing options available today including asphalt, EPDM Rubber and standing seam metal roofs. In selecting an adhesive to use for bases and fasteners, we suggest that you contact the manufacturer of the roofing material for their recommendation. This will also reduce the opportunity for warranty issues once the lightning protection system has been installed.

IPC offers two basic adhesives for use in fastening bases and cable fasteners to various surfaces. Prior to using any adhesive, all surfaces should be cleaned of any loose dirt and dust particles. After adhesive has been applied and the part has been placed on the surface, a minimum of 24 hours set-up time should be allowed prior to placement of air terminals or cable. One gallon of adhesive will yield coverage for approximately 50-60 bases or 150-200 cable fasteners. Product is ready to use with no pre-mixing necessary. These adhesives are **not** intended for rubber roof applications.

**#172 - Roof Adhesive.** Suitable for attaching paste down bases or cable fasteners to asphalt or built-up roof applications. Available in gallon cans. Approximate weight is 10.5 lbs. ★

**#172X - Construction Mastic.** Suitable for attaching bases and cable fasteners to metal, limestone, concrete wood or similar surfaces. Available in gallon cans. Approximate weight is 9.6 lbs. ★

**#172XQ - Construction Mastic.** As above description except in quart size cartridge. Approximate weight is 2.5 lbs. ★

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# ThermOweld® - Exothermic Welding



For some commercial or industrial applications, the specifications may require exothermic welding connections versus the conventional bolt-type connections. For these instances, we recommend the ThermOweld® (TM) process.

The ThermOweld® electrical connection process is a simple, efficient method of welding copper to copper or copper to steel. No outside source of power is required when using ThermOweld®. ThermOweld® connections use the high temperature of reaction of powdered copper oxide and aluminum. The reaction takes place in a semi-permanent graphite mold (ThermOweld®) that will last for approximately fifty or more welds if properly cared for. The ThermOweld® reaction takes place in a very few seconds, therefore the total amount of heat (calories or BTU's) applied to the conductors or surfaces is considerably less than that employed in a brazing or soldering process. This is an important consideration when welding to insulated cable or thin wall pipe.

ThermOweld® is ideal for field use, since it is light and portable and requires no outside power source. It requires very little time or skill to obtain an efficient, maintenance free electrical connection when using ThermOweld®. The ThermOweld® connection is a molecular weld. The weld metal has the same melting point as copper. Because of these factors, along with the increased cross section of the connection, ThermOweld® connections:

1. Will not be affected by a high current surge.
2. Will not loosen or corrode at the point of weld.
3. Have a current-carrying capacity equal to or greater than that of the conductors.



For additional information related to using the exothermic process and equipment needs, please contact our engineering department. There are many configurations available depending on the connector and the conductor cable that are used. For these reasons, our engineering team can help select the right products for the job. We have an inventory available on many of the shots while other items are special ordered and arrive usually within a few days. If you require an expedited delivery, just let us know and we will work with our vendor for drop shipping to your location if requested.



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