



QA Technology Company, Inc.

Applications Note 050 Wire Wrapping 050-SRB, STB255W Sockets & X50-TW-3G/5G Termination

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Note: all dimensions in inches [mm] unless noted

The 050-SRB255W, 050-STB255W and X50-TW-3G/5G sockets are specifically designed for wire wrapping on .050 [1.27mm] centers. The .250 [6.35mm] long .016 [0.41mm] square post (050-SRB and STB255W) and .500 [12.70mm] long .016 [0.41mm] square post (X50-TW-3G/5G) allows 2 wires to be wrapped on the same post (ref. DWG C-050-SR25, C-050-ST25 and DWG C-X50-TW).

Wire and Wrap Type:

The recommended wire is a solid 30 AWG Kynar insulated copper wire. Larger diameter wires will cause crowding between adjacent sockets due to the .050 [1.27mm] center spacing. The recommended strip length (shiner) should be a minimum of .625 [15.9mm] to achieve the recommended 6 to 7 wire turns with a regular type wrap. Modified wraps are not recommended as the finished diameter exceeds the .050 [1.27mm] center spacing.

Kynar Heat Shrinkable Tubing:

Due to the center spacing, Kynar heat shrinkable tubing is required on every other connection to prevent adjacent sockets from shorting together. Kynar tubing is stiffer than other types making installation easier. Colored tubing (blue shown) is recommended over a clear tubing as it helps identify progress during the wrapping operation. Cut lengths of .313" [8mm] will completely cover the wire wrap post on the 050 sockets while .500 [12.70mm] is required on the X50 (ref. notes).

Recommended tools:

Wire wrap tools designed for .050 [1.27mm] centers are recommended. These tools have a .060 [1.52mm] nose diameter that allows better access to the posts. The standard tools typically used on .075 [1.91mm] and .100 [2.54mm] centers are larger and could damage adjacent posts (ref. notes).

Installation Procedure:

1. Install sockets into the socket mounting plate at the desired set height with the proper QA installation tools (ref. Instructions For Installing Sockets and Probes).
2. Slide the Kynar heat shrinkable tubing over the 30 AWG wire (ref. note).
3. Wire wrap every other socket (ref. Photo 2).
 - Insert the wire into the smaller of the 2 holes nearest to the outer periphery of the bit until the wire insulation makes contact with the bit face.
 - For a clockwise wrap (as viewed from the top of the socket), make a bend to the left at the nose of the wire wrap tool. Reverse the bend direction for a counterclockwise wrap (ref. Photo 1).
 - Align the center hole on the wrapping tool nose with the post and slide the tool down the post to the desired wrap location. If more than one wrap is to be made, adjust wrap location accordingly.

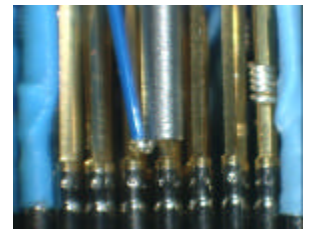


Photo 1: Tool with wire on .016" square post

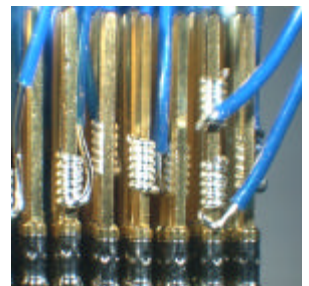


Photo 2: Every other post has been wrapped



- Anchor the insulated portion of the wire and exert a small amount of pressure on the wire to prevent it from spinning.
 - Trigger the wire wrap gun while using light forward pressure. If the operator presses too hard the result may be overwrapping. If removed too soon, spiral or open wraps may result. Keep the tool on the post until the wrap is completed.
4. Slide the Kynar tubing over the wrapped post, the top of the shrink tubing should be even with the top of the wire wrap post (ref. Photo 3).
 5. (optional) Shrink the tubing with a heat gun intended for the purpose, note that the Kynar tubing has a shrink temperature of 347°F [175°C] (ref. Photo 4).
- Wire wrap the remaining posts without insulation (ref. Photo 5).

Wire Unwrapping Procedure:

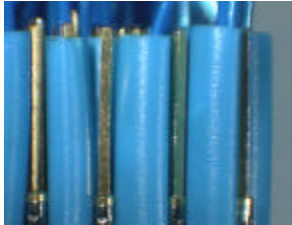


Photo 3: Shrink tubing is even with top of post

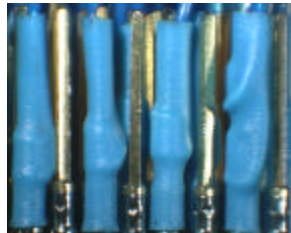


Photo 4: Tubing has been shrunk on posts

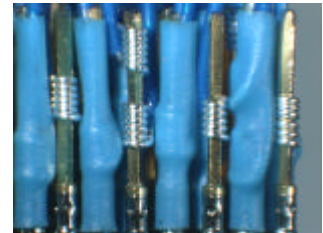


Photo 5: Finished assembly

1. Remove shrink tubing by slitting it longitudinally with a penknife and pulling it off with long nose pliers. This can be difficult and care must be taken to avoid damage to the WW post.
2. Place the UHD 5075 unwrapping tool on terminal /post, use moderate forward pressure and rotate in a direction opposite to the wrap.
3. Maintain forward pressure until the coil has loosened sufficiently and can be removed by hand.

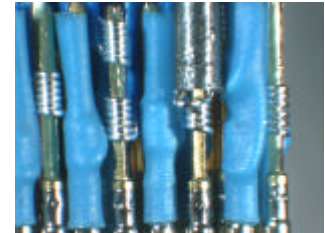


Photo 6: Unwrap tool being used to remove a wire

Notes:

Tools: Wire wrap tools and instructions can be obtained directly from JDV Products 22-01 Raphael St. Fair Lawn, NJ 07410, (201) 796-1720 Phone, (201) 796-9399 Fax. www.jdvproducts.com
Powered Wrap tool BRH5030, Retaining Sleeve for powered tool S50, Hand Wrapping tool HR5030, Unwrap tool UHD5075.

Shrink tubing: Kynar heat shrinkable tubing 3/64" diameter, 347°F [175°C] shrink temperature available from electronic distributors.