

## Body Repair Tech Note: Approved GMA Welding Wires for Structural Repairs

Body Repair Tech Notes provide information about Tesla-approved methods and practices for body repair. These instructions assume knowledge of motor vehicle and high voltage electrical component repairs, and should only be executed by trained professionals. Tesla assumes no liability for injury or property damage due to a failure to properly follow these instructions or for repairs attempted by unqualified individuals.

This Body Repair Tech Note supersedes BR-15-92-010, dated 7-Jul-15. Each content change is marked by a vertical line in the left margin. Discard the previous version and replace it with this one.

Use only approved GMA (gas metal arc) welding wire for structural repairs on Tesla vehicles.

**⚠ WARNING:** Failure to follow all welding safety precautions, including the use of personal protective equipment, could result in serious injury or property damage. Only technicians who have successfully met Tesla's requirements for welding training are authorized to weld structural components on Tesla vehicles.

**⚠ WARNING:** To maintain vehicle crash integrity, use the welding wires specified in this document to perform GMA welding on Tesla vehicles.

**⚠ CAUTION:** Before GMA welding, make sure that the structural adhesive is dry to the touch.

**⚠ CAUTION:** Before GMA welding, perform a test weld using material of the same gauge and type to make sure that the welding equipment settings produce a satisfactory joint.

### Approved Aluminum GMA Welding Wire

The only approved aluminum GMA welding wire for aluminum structural repairs on Tesla vehicles is 1.2 mm (.045 in) diameter aluminum welding wire ER4145 (Figure 1).



Figure 1

ER4145 welding wire is available from Tesla in 5 lb (8 in diameter) spools, listed in the parts catalog as Tesla part number 1022767-00-A.


**NOTE:** This part number was current at the time of publication. Use the revision listed or later, unless otherwise specified in the Parts Manual.

**NOTE:** ER4145 welding wire is a restricted part; only Tesla Approved Body Shops can order this welding wire from Tesla.

## Approved Steel GMA Welding Wire

Use only the approved steel GMA welding wires listed below for steel structural repairs on Model 3. Refer to [BR-17-10-005](#), "Model 3 Body Structure Materials and Allowed Operations" for information on the material used for specific Model 3 body components.

Grade of Steel	Approved Welding Wire
Mild Steel	ER70S-6 Or Bohler Union X96
High-Strength Steel	Bohler Union X96
Ultra High-Strength Steel	Bohler Union X96

 **CAUTION:** GMA welding of butt joints on components composed of advanced high-strength steel is not allowed. The only type of welding allowed on components composed of advanced high-strength steel is plug welding.

For feedback on the accuracy of this document, email [BodyRepair@tesla.com](mailto:BodyRepair@tesla.com).