Welded Coupons & Autogenous Weld Coupons

Corrosion Evaluation of Weld Metal, Heat-Affected Zones & Parent Alloys

As an authorized Metal Samples distributor, Imotron supplies precision-prepared welded corrosion coupons to evaluate differences in corrosion behavior between welded and non-welded metals. Studies encompass the parent material, heat-affected zone (HAZ), weld metal, and bimetallic interfaces—accounting for surface effects such as heat-tint formation, oxidation, fluxing action of slag, and slag deliquescence.

1. Welding Processes & Specimen Preparation

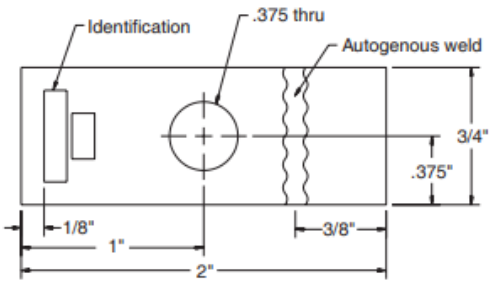
Ideally, a welded coupon matches the exact thickness and welding procedure of the production equipment. Where this is not practical, representative welded specimens are prepared using industry-standard arc welding techniques.

Parameter	Specification & Preparation Details
Supported Welding Processes	Shielded Metal Arc Welding (**SMAW**), Gas Tungsten Arc Welding (**GTAW**), and Gas Metal Arc Welding (**GMAW**).
Filler Metal Options	Prepared either **with filler metal** (matching or specified weld consumable) or **without filler metal** (autogenous GTAW weld).
Post-Weld Surface Finish	Specimens are ground smooth / sanded after welding (120-grit standard finish unless otherwise specified) to provide a uniform surface for microscopic and gravimetric evaluation.
Zones Evaluated	Parent base alloy, heat-affected zone (HAZ), weld deposit / fusion zone, and inter-metallic boundaries.

2. Standard Autogenous Weld Coupon (A.W.A.E.)

The autogenous weld coupon is produced by GTAW without the addition of filler metal, providing the most economical method to evaluate weldability, shielding gas parameters, and corrosion resistance of welded alloys in aggressive environments.

Autogenous Weld Coupon



Notes:

1. 120 grit standard finish unless otherwise specified.
2. 1/8" nominal thickness.
3. Standard weld is autogenous weld across end (A.W.A.E.). Sanded after weld.

Feature / Item	Standard Specification & Ordering Reference
Standard Strip Dimensions	2" (L) × 3/4" (W) × 1/8" nominal thickness; 0.375" (3/8") through-hole centered at 1" from end; identification stamped at 1/8" from end.
Standard Weld Configuration	Autogenous Weld Across End (**A.W.A.E.**) positioned 3/8" from end; sanded after welding to a 120-grit standard finish unless otherwise specified. (Also available in disc/washer and custom geometries.)
P/N BG5001	**VCI Coupon Storage Bags:** Vapor Corrosion Inhibitor (VCI) bags protect ferrous and non-ferrous coupons from atmospheric corrosion for up to one year when stored under proper environmental conditions, with printed fields on the front to record exposure data.

Custom Alloys & Weld Specifications: Welded coupons can be manufactured in virtually any commercial alloy, thickness, or geometry (strip, disc, scale, or multi-electrode) with custom weld filler metals, post-weld heat treatments, or unground as-welded surfaces upon request.

Order Custom Welded Corrosion Coupons & VCI Storage Bags
Contact Imotron Instruments for alloy selection, welding procedure specifications (SMAW, GTAW, GMAW), and P/N BG5001 coupon storage bags.