Corrosion Coupon Types & Special-Purpose Solutions

Comprehensive Coupon Configurations for Precise Corrosion Monitoring, Material Evaluation, & Process Protection

Corrosion coupons are available in various shapes and configurations to meet different monitoring requirements and installation conditions. Selecting the right coupon design is essential for obtaining accurate corrosion data that reflects the actual operating environment.

1. Standard Corrosion Coupon Types

1.1 Flat Corrosion Coupons

The most widely used type for general corrosion monitoring applications.

- Simple design allows easy installation in holders.
- Provides a representative surface area to measure rates and assess uniform & localized attack.
- Ideal for pipelines, vessels, water systems, and industrial plants.

1.2 Cylindrical Coupons

Engineered to simulate the geometry and flow dynamics of piping systems.

- Rounded shape reduces flow disturbance.
- Provides realistic exposure in turbulent or high-velocity environments.
- Critical for high-flow systems and pipelines requiring accurate assessments.

1.3 Flush Disc Coupons

Mounted flush with the internal process wall via monitoring access fittings.

- Minimizes flow disruption across the pipeline wall.
- Provides highly representative measurements of actual internal pipe conditions.
- Suitable for strict flow requirements and critical line monitoring.

2. Special-Purpose Corrosion Coupons

Standard coupons fit many applications, but specialized operating environments require advanced solutions. Imotron offers a range of special-purpose coupons designed to evaluate specific corrosion mechanisms, material conditions, or process-related challenges.

Special-Purpose Coupon	Application & Corrosion Evaluation Scope
Welded Coupons	Evaluate corrosion in welded components and heat-affected zones (HAZ). Identifies variations between base metal, weld material, and interfaces under actual process conditions.
Biofilm Coupons	Monitor microbiologically influenced corrosion (MIC) and biological activity. Crucial for understanding microbial growth impact in oil & gas and water processing.
Stress Coupons	Investigate the impact of mechanical stress on corrosion. Essential for identifying susceptibility to stress-related mechanisms under applied loads or residual stresses.
Elastomeric Coupons	Assess the compatibility and degradation of non-metallic components, elastomers, and polymers exposed to harsh chemical environments and elevated temperatures.
Scale Coupons	Assess scaling tendencies and deposit formation in water and process systems to optimize chemical treatment programs and prevent operational blockages.

> **Metal Samples Authorized Partner:** Imotron delivers the full suite of Metal Samples solutions in diverse alloys, geometries, and specialized finishes.

3. Tailored Corrosion Monitoring Solutions

As an official distributor of Metal Samples, Imotron provides a complete portfolio of standard and special-purpose corrosion coupons manufactured in a wide array of metals and alloys. By selecting the correct coupon design tailored to your specific application, you gain accurate corrosion rate data, deeper insight into degradation mechanisms, and the ability to build effective proactive maintenance strategies that maximize asset life.

Expert Corrosion Monitoring Solutions

From standard pipelines to complex high-temperature systems, Imotron delivers the precise coupon configurations required to make corrosion visible, measurable, and manageable.