

# ID/OD COATINGS

*Custom anti-corrosion coating for inside diameter (ID) and outside diameter (OD) field joints*



# ID/OD COATINGS

Aegion Coating Services specializes in unique OD and ID robotic coating solutions for onshore and offshore pipeline field joints. We also offer custom coating solutions, specialized equipment, foam trench breaker, inspection services and more for projects in Asia-Pacific, Africa, Europe, North America, South America and The Middle East.

## OUTSIDE DIAMETER (OD) FIELD JOINT COATING

With the oil and gas industry heading toward defined technological advances, Aegion Coating Services engineers have developed a field joint coating mechanism with the ability to automatically apply liquid to the field joint. The development of the automated Liquid Coating Ring provides both functionality and consistency for a more reliable solution in corrosion protection.

### Liquid Coating Ring

The Automated Liquid Coating Ring is engineered to be user-friendly and operated by the push of a button. After being lowered onto the pipe, the ring automatically rotates around the field joint for a more consistent result. One of the many advantages of the Automated Liquid Coating Ring is the use of the Paint and Solvent Reclaim System to alleviate the issue of overspray and waste. The travel speed, number of passes, thickness, width, temperature and pressure can all be regulated to reduce variability in the final product.

### Benefits of the Liquid Coating Ring

- Automatic ratio control
  - Data logging components
  - Programmed application parameters
- Environmentally-friendly
  - Paint solvent reclaim system
  - Reduction in waste
- Multiple product capabilities
- Easy maintenance
- Reduced manpower by 50%
- Operator friendly
- Fail-safe programming
- Consistent thickness results
- Up to 80% reduced application cycle time



### Paint and Solvent Reclaim System

The Paint and Solvent Reclaim System makes this unit unique to other systems. Normally for disposal, other spray systems point the fan away from the pipe either directing the waste overspray unchecked into the environment or into a collection container that must be manually retrieved by an operator. Our advanced Paint and Solvent Reclaim System directs the entire waste stream into a receptacle for easy disposal.

### System Features

#### Ratio Specs

- Plural component ratio range — 1.0:1 to 10.0:1  $\pm$  5%
- Digitally controlled ratio and material parameters for traceability
- Dosing catalyst injection system provides uniform blended coating

#### Spray System

- Paint solvent reclaim system
- Automatic drum loading system
- Heat traced lines and drums ensure consistent spray quality
- Spray field joints up to 24 inches wide
- Coating DFT between 10 to 60 mils
- Tight film build tolerances reduce waste associated with thickness
- Mounting of the mixing manifold on the ring minimizes solvent purge waste
- Multi-component spray for a variety of coating options

## INSIDE DIAMETER (ID) FIELD JOINT COATING

### Internal Robotic Field Joint Coating

For more than 30 years, Aegion Coating Services has been an innovator in coating application technology and pioneered the field application of fusion bonded epoxy (FBE) and liquid epoxy to the inside diameter of the field joint and cutback margin. In addition, we hold more than a dozen patents related to the internal robotics used in the cleaning and coatings application process.

### Specialized Robotics

Each piece of our robotic equipment has live video feedback for real time observation by our trained field technicians. This robotic equipment can operate in pipe diameters ranging from 8 inches (.500 WT) to 60+ inches at each active jobsite for all projects. This cleaning and coating process represents decades of Aegion Coating Services research, testing and field application.

Aegion Coating Services provides corrosion control by performing an internal cleaning, coating and inspection on each cutback and field joint on new construction pipelines.

### Benefits of Internal Field Joint Protection

- Increased pipeline longevity
- Reduced internal corrosion
- Reduced pipeline flow friction
- Reduced pipe wall thickness requirements
- Diminished or eliminated pipeline leaks
- Protected environment

### Field Services

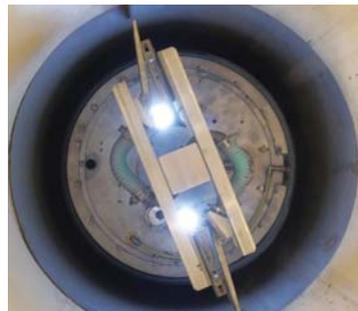
Aegion Coating Services specializes in the application of FBE or liquid epoxy to field joints with its patented robotic cleaning, coating and inspection system. To date, Aegion Coating Services has coated more than 110,000 internal field joints at onshore and offshore locations throughout the world. All of our robotic equipment has live video feeds to accurately ascertain exactly where the equipment is located in the pipe string. Aegion Coating Services also offers patented robotic inspection of our internally coated field joints with a proprietary inspection robot capable of taking dry film thickness readings (DFT) of applied materials, and a high voltage holiday inspection of both the cutback margin and weld bead to ensure a 100% defect-free product.

- Robotic internal field joint coating
- Shrink sleeve application
- Inhibitor application on stockpiled pipe inventory
- Fixed or portable double joint rack internal field joint coating
- Robotic internal pipeline video inspection
- Robotic internal coating thickness measurement and holiday detection

### Engineering Services

Aegion Coating Services is a respected pioneer in the development of rebar and coating plant technology and equipment. Engineering and technology services worldwide include:

- Design and construction of rebar and pipe coating plants
- Design and construction of powder transport systems
- Design and construction of pipe rotators



## INSPECTION SERVICES

### CoatCheck®

CoatCheck® was created to assist inspectors and owners in the tracking of both the coating quality and location of girth welds before they are buried or submerged. Because the industry is becoming more automated, regulated and often strict documentation is required, Aegion Coating Services saw that a need existed for an automated method of tracking quality and assisting owners with a way to more accurately document the work that is being performed on their right-of-way.

CoatCheck® is completed in two stages. The first stage is performed after a blasted/cleaned surface is prepared but prior to coating. The anchor profile is measured, the location is logged and the environmental conditions are recorded. After coating, the second step in the process requires the unit to take multiple thickness measurements and conduct a holiday test. Each stage takes about a minute to complete. After all data is logged, it is collected and presented to the client.

### Inspection Robot

The primary purpose of the inspection robot is to detect flaws in pipeline coatings before any product enters the pipeline. It is part of a robotic system that cleans, coats and inspects internal field joints by measuring dry film thicknesses and locating holidays. It can also locate holidays along factory-coated pipes using a circumferential brush.

The inspection robot also contains technology to view and record the radial location of any coating holidays and can also display parent-coating damage, debris, failed field-applied couplings and other anomalies. Visual and high-voltage inspection of the internal field joint adds a quality control aspect that is unmatched by other inspection processes.



CoatCheck® Field Joint Inspection



A full train of robotic equipment can apply corrosion prevention coatings to internal field joints.



The Inspection Robot features a laser beam that detects unacceptable weld bead contours.



The cleaner and vacuum work in tandem to blast clean, vacuum and recycle grit on each internal field joint.