



**NACE Standard RP0291-2005
Item No. 21049**

Care, Handling, and Installation of Internally Plastic-Coated Oilfield Tubular Goods and Accessories

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Foreword

This standard recommended practice covers the care, handling, transportation, and installation of internally plastic-coated (IPC) oilfield tubular goods and accessories (IPC material). Some internal plastic coatings are inherently brittle or may be incompatible with various chemicals used in oil and gas production operations and therefore are susceptible to damage from poor handling procedures, well operations, and chemical attack. Coating damage (e.g., cracks, chips, and disbondment) reduces coating effectiveness and results in premature coating failure. To minimize coating damage and prolong coating life, special handling and operating procedures must be utilized with IPC material during all phases of storage, transport, installation, and operation. Following the guidelines presented in this standard will help users, oil and gas producers, transportation companies, workover companies, and well-servicing companies and personnel to ensure the most cost-effective use of IPC material.

This standard was originally prepared in 1991 by NACE Task Group T-1G-4, a component of Unit Committee T-1G on Protective Coatings, Elastomers, and Other Nonmetallic Materials for Oilfield Use. It was reaffirmed in 1996 by T-1G, and revised in 2005 by Task Group (TG) 087 on Reaffirmation, Revision, or Withdrawal of STG 33 Standards and Technical Committee Reports. TG 087 is administered by Specific Technology Group (STG) 33 on Oil and Gas Production—Nonmetallics and Wear Coatings (Metallic), and sponsored by STG 03 on Protective Coatings and Linings—Immersion/Buried. This standard is published by NACE International under the auspices of STG 33.

In NACE standards, the terms *shall*, *must*, *should*, and *may* are used in accordance with the definitions of these terms in the NACE Publications Style Manual, 4th ed., Paragraph 7.4.1.9. *Shall* and *must* are used to state mandatory requirements. The term *should* is used to state something good and is recommended but is not mandatory. The term *may* is used to state something considered optional.

RP0291-2005

**Standard
Recommended Practice**

Care, Handling, and Installation of Internally Plastic-Coated Oilfield Tubular Goods and Accessories

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Section 1: General

1.1 This standard presents guidelines for the proper care, handling, and installation of IPC oilfield tubular goods and accessories.

1.2 The function of the internal coating system is to form a protective barrier between the metal surface and the environment to prolong the useful life of the tubular goods and accessories.

1.3 If the coating is damaged during storage, handling, transportation, or installation, the protective barrier may be broken. This reduces coating performance and may result in premature failure.

1.4 This standard addresses specific areas of concern to help prevent or minimize damage to IPC material during all phases of handling, transportation, storage, and installation.

Section 2: Definitions

Applicator: An individual or company who performs the coating application.

Corrosion-Resistant Alloy (CRA): Alloy material containing chrome, nickel, and other corrosion-resistant alloying elements. See Part 3 of NACE MR0175/ISO⁽¹⁾ 15156.

IPC material: Internally plastic-coated tubular goods (tubing, casing, line pipe, drill pipe) and accessories (couplings, fittings, valves, mandrels, etc.).

Plastic coating: A polymeric material applied to oilfield tubular goods (tubing, casing, drill pipe, etc.) and oilfield accessories (fittings, valves, packers, etc.) that forms a protective barrier between the metal and the environment to minimize corrosion attack, contamination, and/or deposit formation.

Transporter: An individual or company who transports the IPC material from one location to another.

User: An individual, company, or authorized representative who makes use of the IPC material.

Section 3: Preliminary Requirements

3.1 IPC material shall be handled by the applicator, transporter, and user in a manner to prevent damage to the coating, metal, and threads.

3.2 The applicator shall apply API⁽²⁾-modified thread compound to all exposed threads on IPC material unless an alternate thread compound is specified by the user. User-approved, closed-end plastic or steel-reinforced plastic (composite) thread/end protectors shall be installed by the applicator on IPC material and shall remain in place during all phases of handling, storage, and transport.

3.3 Clamps, hooks, bars, rods, or other foreign objects shall not be placed inside IPC material.

3.4 Drifts or "rabbits" shall be made of rubber, plastic, or wood and shall be maintained free of debris that would damage the coating during drifting. Special clearance drifts may be necessary to allow for coating thicknesses of more than 445 μm (17.5 mil). API RP 5A5² provides guidelines for drift dimensions for IPC tubing.

3.5 IPC material shall not be subjected to excessive bending, deflection, or impact that results in permanent steel deformation or coating damage.

3.6 IPC coated tubulars should not be dropped vertically.

Section 4: Yard Storage

4.1 IPC material shall be racked for storage in a manner to prevent excessive flexing or bending, and to prevent

damage during loading and unloading. IPC tubular goods shall not be pyramid stacked (cradled) for storage.

⁽¹⁾ International Organization for Standardization (ISO, 1 rue de Varembe, Case Postale 56, CH-1121 Geneve 20, Switzerland.

⁽²⁾ American Petroleum Institute (API), 1220 L St. NW, Washington, DC 20005.