

# SSPC: The Society for Protective Coatings

## QUALIFICATION PROCEDURE NO. 6

### Standard Procedure for Evaluating the Qualifications of Contractors Who Apply Thermal Spray (Metallizing) for Corrosion Protection of Steel and Concrete Structures

#### 1. Scope

**1.1** This procedure describes a method for evaluating the qualifications of industrial thermal spray (metallizing) contractors and defines a minimum standard to evaluate the contractor's capability to evaluate and accept the preparation of the surface to be metallized and to thermally spray (1) coatings of aluminum, zinc, and their alloys for corrosion protection of steel and/or (2) zinc anodes on steel reinforced concrete.

**1.2** The contractor shall be qualified for steel, concrete, or both steel and concrete. The QP 6 certificate/designation will indicate the qualification category.

**1.3** The objective of this procedure is to determine if a thermal spray contractor or shop has the personnel, organization, qualifications, procedures, and knowledge, to determine acceptability of surface preparation, apply thermal spray (metallized) coatings, and apply sealing of the required quality under the conditions and restrictions specified by the owner.

**1.3** Unless otherwise specified, QP 6 requires the contractor to be QP 1 certified for field surface preparation and coating application or QP 3 certified for shop surface preparation and coating application to supplement the requirements of this procedure.

#### 2. Definitions

**Auditor:** 1) The person or persons who perform audits on behalf of the qualifying agency. 2) The person or persons possessing the necessary technical competence to review applicant submittals, conduct on-site shop and field audits of applicants, and report results to the qualifying agency in compliance with the requirements of this procedure and the written requirements of the formal audit program.

**Owner:** The person, company or organization that owns the item or structure to be metallized.

**Procedure:** The sequence of steps taken to carry out a particular course of action.

**Qualification:** The procedure by which written assurance is given that an applicant conforms to the prescribed set of conditions or requirements of this standard procedure.

**Qualifying Agency:** The body responsible for development, maintenance, sponsorship, and operation of a program

to ensure uniform compliance with the provisions of this procedure.

**Thermal Spray Contractor:** A firm that provides thermally sprayed coating application services (surface preparation evaluation and acceptance through thermal spray application, sealing, and topcoating) in a shop facility or in the field.

**Thermal Spray Inspector (TSI):** A person who has training and experience to conduct inspections in accordance with SSPC-CS 23.00/AWS 2.23M/C2:23 /NACE No. 12 and the applicable inspections of ASTM D 3276.

**Thermal Spray Operator (TSO):** A worker who has been qualified in general accordance with AWS C2.16/C2.16M:2000 to apply thermal spray coatings. The qualification is documented by a signed and dated certificate indicating the type of equipment, type of thermal spray coating, and type of thermal spray application performed.

**Thermal Spray Supervisor (TSS):** The applicant's employee who has responsibility and authority to ensure that thermal spray applications are applied to meet project specifications. This employee will be involved in material and equipment decisions and be onsite during all quality hold points, surface preparation acceptance, and all thermal spray application. Qualifications, evaluation, and certification of the supervisor are described in Section 6.

**Thermal Spraying (Metallizing):** A process for applying metallic feedstock or metallic powder. The material is melted and sprayed onto the substrate to produce a uniform coating.

**Thermal Spray Supervisor Qualification (TSS Qualification):** A qualification required by SSPC-QP 6 for the TSS. The TSS Qualification shall be for the steel category, the concrete category, or both steel and concrete categories.

#### 3. QP 6 Qualification and Categories

**3.1 TYPES OF STRUCTURES:** Complex structures encompass a wide range of structural types and configurations. Although the required evaluation functions are similar for all complex structures, the specific skills (e.g., rigging or pollution controls) are sometimes quite different for painting a bridge and painting a process facility.

This procedure does not differentiate between contractors engaged in work in different industries and on different structures. Owners will often select contractors with the specific skills and experience required for the particular job at hand. Some industrial subcategories with which specific skills are often associated are listed below.

- Marine/splash zone: These include structures such as waterfront structures, locks, dams, ship hulls, bulkheads, piers, and offshore platforms and structures.
- Bridges and towers
- Manufacturing facilities
- Chemical and processing facilities: These include chemical and petrochemical plants, pulp and paper mills, food and beverage plants, and water and waste facilities.
- Power generation facilities and distribution structures

**3.2 FUNCTIONS TO BE EVALUATED:** This procedure identifies four functional areas to be evaluated: Management Procedures, Technical Capabilities, Quality Control, and Safety and Health. General requirements for each of these function areas are presented in Section 5.

**3.3 QUALIFICATION CATEGORIES:** This standard establishes two categories for thermal spray qualification.

- Steel Category:** The QP 6 steel category is for qualification of a thermal spray contractor (shop or field) performing acceptance of surface preparation of new and existing steel structures followed by thermal spray application in accordance with SSPC-CS 23.00/AWS C2.23M/C2:23/NACE No. 12.
- Concrete Category:** The QP 6 concrete category is for qualification of a thermal spray contractor determining acceptability of surface preparation of existing concrete followed by thermal spray application in order to provide cathodic protection of existing steel reinforced concrete in accordance with AWS C2.20/C2.20M.

## 4. Referenced Standards

**4.1** The latest issue, revision, or amendment of the referenced standards in effect shall govern, unless otherwise specified.

**4.2** If there is a conflict between the requirements of any of the cited referenced standards and this procedure, the requirements of this procedure shall prevail.

### 4.3 SSPC AND JOINT STANDARDS:

|                                                    |                                                                                                                                            |
|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SSPC-CS 23.00/AWS C2.23M/C2:23/NACE No. 121</b> | Application of Thermal Spray Coatings (Metallizing) of Aluminum, Zinc, and Their Alloys & Composites for the Corrosion Protection of Steel |
| <b>SSPC-QP 1</b>                                   | Standard Procedure for Evaluating Painting Contractors (Field Application to Complex Industrial Structures)                                |

**SSPC-QP 2** Standard Procedure for the Qualification of Painting Contractors (Field Removal of Hazardous Coatings from Complex Industrial Structures)

**SSPC-QP 3** Standard Procedure for Evaluating Qualifications of Shop Painting Applicators

**SSPC-SP 5/NACE No. 1** White Metal Blast Cleaning  
**SSPC-SP10/ NACE No. 2** Near-White Blast Cleaning

## 4.4 ASTM STANDARDS

**D 3276** Guide for Painting Inspectors (Metal Substrates)

## 4.5 AMERICAN WELDING SOCIETY (AWS) STANDARDS:

**AWS C2.16/C2.16M:2000** Guide for Thermal-Spray Operator Qualification and its Annex A (Safety Information for Thermal Spray)

**AWS C2.20/C2.20M:2002** Specification for Thermal Spraying Zinc Anodes on Steel Reinforced Concrete

## 5. General Qualification Requirements

**5.1 MANAGEMENT PROCEDURES:** The contractor or shop must demonstrate adequate procedures for disseminating the company policies and procedures listed in Section 5.1.1 to personnel, administrative and financial management as follows:

**5.1.1 Policy:** The contractor shall have:

- Written policies on quality, safety, and health.
- Written procedures for disseminating company policies within the organization. The contractor shall demonstrate that procedures and policies are followed.

**5.1.2 Organization and Personnel:** The contractor shall have:

- An organizational chart showing division of responsibility within the contractor's company.
- A list of names, titles, duties, and job descriptions for key personnel (management, technical, quality control, safety). The job description shall state the experience, licenses, certifications and training and refresher training required for each position.

**5.1.3 Administrative and Management Procedures:** The contractor shall provide:

- A brief, written description of the contractor's method of financial record keeping.
- Procedures used for contract estimating and scheduling, and for cost accounting.

