

## PROCESS SPECIFICATION FOR ZINC PLATING

### TWB FeZn *txn*

#### 1. SCOPE

This specification describes the requirements for zinc plating on steel including options for high performance hexavalent chromium free passivation systems.

#### 2. DEFINITIONS

Significant Surfaces:

Unless agreed otherwise, all external surfaces, which can be touched by a 20mm ball, are significant and must have the minimum average plating thickness specified.

#### 3. ESSENTIAL INFORMATION TO BE SUPPLIED BY THE CUSTOMER

The customer (in consultation with TWB Finishing Ltd where necessary) shall provide the following:

3.1. The specification designation Fe/Zn *txn* indicating a Zinc coating on steel where the variables “T” and “x” are as follows:

    “T” is the required numeric value of the minimum average thickness in microns.

    “x” is the passivation required (see table A)

    “n” is the post passivate treatment required (see table B)

3.2. Drawing or marked specimen disclosing:

    Jig witness mark location (if applicable)

    Significant surfaces

3.3. Packing requirements

3.4. Whether parts are to be rack or barrel plated.

If any of the above requirements are not given or are unavailable TWB Finishing Ltd will process articles in accordance with best practice.

#### 4. PROCESS

TWB Finishing Ltd will select an appropriate process route giving due consideration to the customer requirements, process, and surface condition of the base material.

**5. REQUIREMENTS OF THE COATING**

5.1 Appearance

Unless specified otherwise the significant surface will pass TWB Finishing Ltd Inspection Method 1.011: Visual Inspection of Metallic Coatings

5.2 Coating Thickness

The coating shall be measured using TWB Finishing Ltd inspection method 1.001.

5.3 Passivate Adhesion

Unless specified otherwise, the product will pass TWB Finishing Ltd Inspection Method 1.008: Adhesion Test for Passivate Films. The tests to be carried out prior to any post passivate process.

**6 INSPECTION**

6.1 Sampling

Unless specified otherwise the TWB Finishing Ltd Inspection Plan shall be used for the inspection

6.2 Records

Unless specified otherwise all records of inspection shall be recorded as laid down in TWB Finishing Ltd Inspection Plan

6.3 Process

The process will comply with TWB Finishing Ltd Quality Control Procedures. Unless agreed otherwise TWB Finishing Ltd are free to review and change process routes, plant, equipment and process parameters without disclosure to the customer provided in so doing the performance of the coating is not impaired.

TABLE A	
Passivation Required	Designation "x"
*Conventional Bright Trivalent	A
*Thin Film Trivalent	B
Full Hexavalent Passivation	C
*Thick Film Trivalent	E
*Epo-Bright Trivalent	G

\*With Trivalent processes please note that barrel plated components should be subjected to post passivation treatments to help compensate for the mechanical damage expected of the passivate film.

TABLE B	
Post Passivation Process Required	Designation "n"
None	1
Torque 'n' Tension 15	2
JS 1000	3
Organic Top Coat	4
Dewatering Oil dip	5

### 7 Corrosion Resistance

Corrosion resistance will vary depending on the specification, the substrate, manufacture detail and any special local conditions.

#### Examples of TWB Finishing Ltd Hexavalent Chrome Free Process Range

Process	Specification		Resistance to WR	Resistance to RR
Barrel Zinc 8μ	FeZn 8B3	Thin Film Tripass	> 72	> 150
	FeZn 8E3	Thick Film Tripass	>120	>250
Rack Zinc 8μ	FeZn 8B1	Thin Film Tripass	>72	>150
	FeZn 8E1	Thick film Tripass	>120	>250
	FeZn 8G1	Epo-Bright	>120	>250

WR= First White Rust

RR = First Red Rust