

PROCESS SPECIFICATION FOR ZINC ALLOY PLATING

TWB FeZn-*Yy txn*

1. SCOPE

This specification describes the requirements for zinc alloy plating on steel.

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-*Yy txn* indicating a Zinc alloy coating on steel where the variables “*Yy*” “*T*” and “*x*” are as follows:

“*Yy*” is the alloy required (see table A)

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

“*x*” is the passivation required (see table B)

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

3.2. Drawing or marked specimen disclosing:

3.2.1. Jig witness mark location (if applicable)

3.2.2. Significant surfaces

3.3. Packing requirements

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.

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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 test to be carried out prior to any post passivates 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		
Alloy	Designation ("Yy")	% Alloy
Zinc/Iron	Zn-Fe	0.5% to 0.8% Iron
Zinc/Cobalt	Zn-Co	0.6% to 1.2% Cobalt
Zinc/Nickel	Zn-Ni	12% to 16% Nickel
Tin/Zinc	Sn-Zn	70% to 80% Tin

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TABLE B	
Passivate Required	Designation "x"
None	A
Full Hexavalent Passivation	C
Thick Film Trivalent	E
Hexavalent Black	F
*Trivalent Black	*K

* Must be followed by 4 below

TABLE C	
Post Passivate Process Required	Designation "n"
None	1
Torque 'n' Tension 15	2
Silicate Seal (JS500)	3
Organic Top Coat	4
Dewatering Oil dip	5

7 Corrosion Resistance

The following table is a guide to the expected Hot Salt Spray corrosion resistance of some of the coatings specified. Corrosion resistance will vary depending of the substrate, manufacture detail and any special local conditions. This chart is based on results of rack plated test panels tested to AST B117.

Process		5% White	5% red
Zinc/Iron	TWB FE/Zn-Fe 8C2	> 200	> 750
	TWB FE/Zn-Fe 8F2	> 250	> 750
Zinc/Cobalt	TWB FE/Zn-Co 8C2	> 300	> 1000
	TWB Fe/Zn-Co 8F2	> 400	> 1000
Zinc / Nickel	TWB Fe/Zn – Ni 8E1	> 120	> 720