Interzinc 22
Application Guidelines

Prepared by: Global Technical Support

www.international-pc.com

The information in this guideline is not intended to be exhaustive; any person using the product for any purpose other than that specifically recommended in this guideline without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at their own risk. All advice given or statements made about the product (whether in this guideline or otherwise) is correct to the best of our knowledge but we have no control over the quality or the condition of the substrate or the many factors affecting the use and application of the product. THEREFORE, UNLESS WE SPECIFICALLY AGREE IN WRITING TO DO SO, WE DO NOT ACCEPT ANY LIABILITY AT ALL FOR THE PERFORMANCE OF THE PRODUCT OR FOR (SUBJECT TO THE MAXIMUM EXTENT PERMITTED BY LAW) ANY LOSS OR DAMAGE ARISING OUT OF THE USE OF THE PRODUCT. WE HEREBY DISCLAIM ANY WARRANTIES OR REPRESENTATIONS, EXPRESS OR IMPLIED, BY OPERATION OF LAW OR OTHERWISE, INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. All products supplied and technical advice given are subject to our Conditions of Sale. You should request a copy of this document and review it carefully. The information contained in this guideline is liable to modification from time to time in the light of experience and our policy of continuous development. It is the user's responsibility to check with their local International Paint representative that this guideline is current prior to using the product.

The International Paint Application Guidelines have been produced and revised in line with the Worldwide Protective Coatings Product Range. The purpose of the guidelines is to ensure that the product, as applied, provides adequate protection against corrosion. **This Guideline does not cover application where the intended service is as a tank lining for methanol storage.**

Successful in-service performance of a coating system depends upon both the correct choice of product(s) and the adoption of the correct guidelines for surface preparation and paint application.

The responsibilities for achieving the specific standards outlined, and for carrying out surface preparation and paint application, rest with the Contracting Company. Under no circumstances do these responsibilities rest with International Paint. We will generally provide for the presence of a Technical Service Representative at key stages during the performance of the contract. The role of the International Paint Technical Service Representative is advisory only unless otherwise specified in the terms and conditions of the contract. The information contained herein presents guidelines for the application of Interzinc 22 to correctly prepared surfaces.

CONTENTS

1. Surface Preparation
2. Application
3. Dry Film Thickness Specification
4. Drying Times
5. Curing
6. Overcoating

1. SURFACE PREPARATION

1.1 New Construction

Abrasive Blast Cleaning
Optimum performance will always be achieved via the use of abrasive grit blasting or an appropriate grit/shot blend to achieve a sharp angular profile.

Abrasive blast cleaning to Sa2½ (ISO 8501-1) or SSPC-SP6 (or SSPC-SP10 for optimum performance). If oxidation has occurred between blasting and application of Interzinc 22, the surface should be re-blasted to the specified visual standard. Surface defects revealed by the blast cleaning process should be ground, filled, or treated in the appropriate manner. A surface profile of 40-75microns (1.5-3.0) mils is recommended. Lower than recommended surface profiles will reduce adhesion and increase the possibility of mud-cracking.

Shop Primed Steelwork
Interzinc 22 is suitable for application to unweathered steelwork freshly coated with zinc silicate shop primers.

If the zinc shop primer shows extensive or widely scattered breakdown, or excessive zinc corrosion products, overall sweep blasting will be necessary. Other types of shop primer are not suitable for overcoating and will require complete removal by abrasive blast cleaning.

Weld seams and damaged areas should be blast cleaned to Sa2½ (ISO 8501-1) or SSPC SP6.

Damaged/Repair Areas
All damaged areas should ideally be blast cleaned to Sa2½ (ISO 8501-1) or SSPC SP6. However, it is acceptable that small areas can be power tool cleaned to Pt3 (JSRA SPSS) or SSPC SP11, provided the area is not polished. Repair of the damaged area can then be carried out using a recommended zinc rich epoxy primer such as Interzinc 52.

1.2 Major Refurbishment / Repair

Abrasive blast cleaning to Sa2½ (ISO 8501-1) or SSPC-SP6 (or SSPC-SP10 for optimum performance). If oxidation has occurred between blasting and application of Interzinc 22, the surface should be re-blasted to the specified visual standard. Surface defects revealed by the blast cleaning process should be ground, filled, or treated in the appropriate manner.

Optimum performance will always be achieved via the use of abrasive grit blasting or an appropriate grit/shot blend to achieve a sharp angular profile. A surface profile of 40-75 microns (1.5-3.0 mils) is recommended. Heavily pitted and corroded steel may be very difficult to protect with a zinc silicate primer.

2. APPLICATION

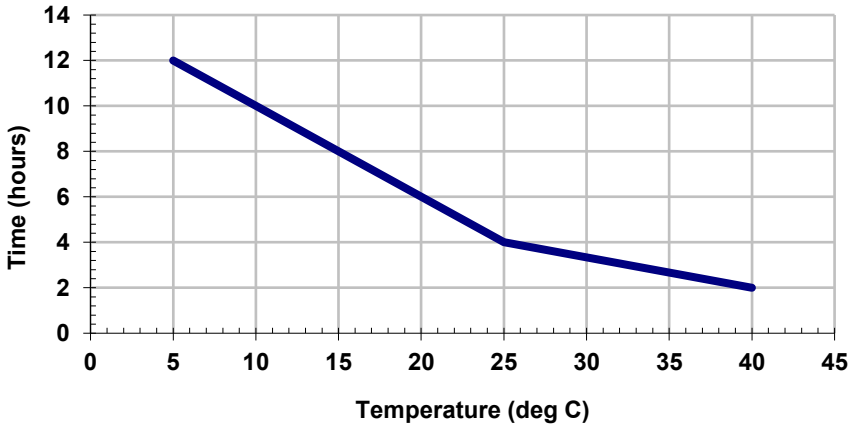
2.1 Mixing

Interzinc 22 is supplied in 2 parts, a liquid binder component (Part A) and a powder (zinc dust) component (Part B). The powder (zinc dust, Part B) should be slowly added to the liquid binder (Part A) whilst stirring with a mechanical agitator. Do not add liquid to powder as this will result in a heavy, powdery mass, which will be impossible to mix correctly and will result in the presence of lumps of zinc and subsequent high wastage. The mixed material should then be filtered prior to application and should be constantly agitated in the pot during spraying. Once the unit has been mixed it should be used within the working pot life specified.

2.2 Thinning

Under normal conditions, thinning of Interzinc 22 should not be necessary to obtain good airless spray application properties. At high temperature (typically above 28°C (82°F), it may be necessary to thin with International GTA803 (or GTA415). The amount of thinning required will depend upon local prevailing environmental conditions such as temperature, humidity, spray method etc.It is recommended that thinning does not exceed 10% by volume. If too high a level of thinner or the incorrect thinner is used, the drying and curing processes may be retarded. Where high levels of thinning are used it is recommended that mixed paint is re-circulated to avoid settling of zinc in the container or in the spray lines.

2.3 Working Pot Life Time



It should be noted that the viscosity of Interzinc 22 increases very slowly and the material will remain liquid after the pot life times specified. However, the material should not be applied once the pot life has been exceeded as this may result in applied films which cure poorly and are more prone to mud-cracking.

2.4 Application Methods

Application by brush is recommended for small areas only and roller application of Interzinc 22 is not recommended. Airless spray is the preferred method of application for Interzinc 22. Please see the product data sheet for details.

Prolonged application of zinc dust containing paints can lead to a build-up of material in the equipment, and ultimately blockages can occur due to “packing out” with zinc dust. To ensure longevity, the equipment should be cleaned at frequent intervals.

Ensure all equipment is thoroughly cleaned with GTA803 or GTA415 cleaner after use.

2.5 Environmental Conditions for Application

Minimum air temperature
It is recommended that the air temperature be above 5°C (41°F), however Interzinc 22 may be applied at lower temperature provided that there is sufficient moisture in the air (~65%) to achieve adequate cure.

Minimum steel temperature: 3ºC (5ºF) above dew point
Minimum relative humidity: 55%

At relative humidity less than 55%, the minimum overcoating time may be extended.

The curing reaction may be considerably retarded at less than 55% RH. It may be necessary to tent the area to create a suitably warm, humid micro-climate, in order to achieve acceptable cure. Humidity may be increased by the use of steam or water spraying, however cure at relative humidity below 55% is achieved more effectively by incorporating the low humidity cure accelerator.

3. DRY FILM THICKNESS SPECIFICATION

Interzinc 22 is typically applied at 75 microns (3 mils), equivalent to 119 microns (4.7 mils) wet film thickness. For elevated temperature service, a specification DFT of 50µm (2 mils) is recommended).

It is most important that Interzinc 22 is not over-applied and should not exceed 125 microns (5 mils) dry film thickness on any area, otherwise mud-cracking of the film may occur. Mud-cracking that is discernable with normal vision is unacceptable and should be disced back and the area touched up.

The recommended application procedure is to build up dry film thickness by application in a number of passes. For areas of low dry film thickness below 50µm (2 mils), it is recommended that a light sweep blast is carried out followed by application of Interzinc 22 to specified DFT.

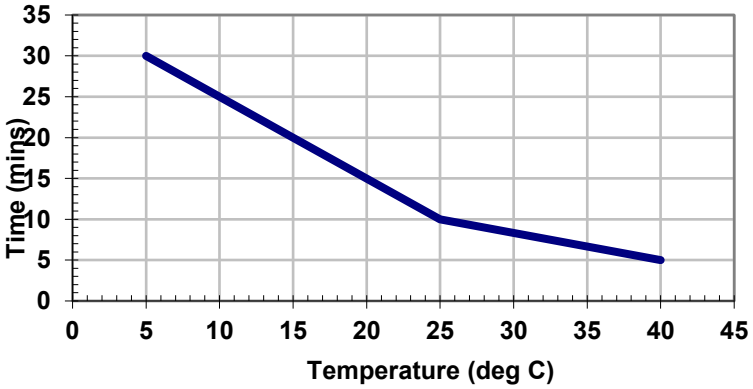
For areas between 50 and 125µm (2 -5 mils), including overlaps, these are deemed fit for purpose for general ambient temperature end use, however, it is recommended that for high heat service, the applied DFT is ≤75µm (3 mils).

For areas above 125µm (5 mils) it is recommended that the area is re-blasted to Sa2½ (SSPC-SP6) and the product is reinstated to specified thickness regardless of whether mud-cracking is or is not present.

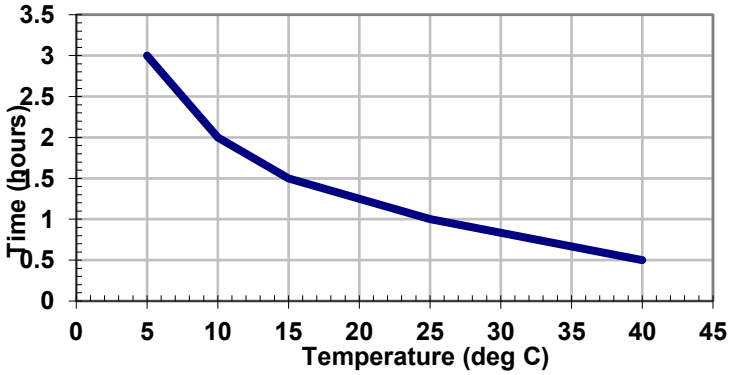
4. DRYING TIMES

The drying times quoted refer to a single coat applied to give 75 microns (3 mils) dry film thickness and have been determined under laboratory-controlled conditions at 55% relative humidity. Drying times achieved in practice may show slight fluctuations. The higher the level of relative humidity, the faster the dry time.

Touch Dry Time at 55% RH



Hard Dry Time at 55%RH



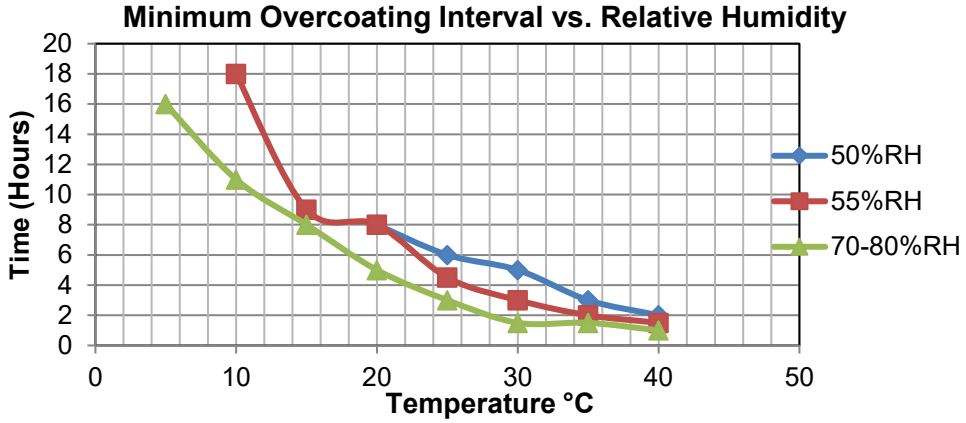
5. CURING

The curing mechanism for inorganic zinc silicates relies heavily upon the presence of moisture in the atmosphere. At relative humidity levels less than 55%, curing will be significantly retarded, and satisfactory cure may not be achieved for several days, if at all. The addition of an optional low humidity cure accelerator solution (QHA922) can be used to facilitate cure at humidities down to 10%. At higher relative humidity, curing will be faster.

The degree of cure should be checked using a solvent rub test, such as that described in ASTM D4752. This test uses methyl ethyl ketone as the solvent, and a value of 4 after 50 “double rubs” indicates satisfactory cure for overcoating purposes.

Overcoating inadequately cured zinc silicate primers can lead to detachment problems when topcoats are applied.

6. OVERCOATING



The numerical information quoted has been derived from laboratory test data obtained under controlled conditions for the products described. Whilst every effort has been made to ensure accuracy, this information will be subject to minor variations obtained in normal manufacturing tolerances, and any fluctuations in ambient conditions during the application and curing periods.

Verification of overcoatability is required as per section 5 above.

6.1 Minimum Overcoating Interval

Refer to the Product Datasheet for standard overcoating intervals. Where the optional low humidity accelerator is used, please refer to table 1 below.

These minimum overcoating times are based on the addition of one standard unit of accelerator solution per one standard mixed unit of Interzinc 22. Please consult International Protective Coatings for further guidance on curing at low relative humidities and on mix ratios for non-standard pack sizes. Prior to overcoating, the level of cure should be checked using ASTM D4752 Measuring MEK Resistance of Ethyl Silicate (Inorganic) Zinc-Rich Primers by Solvent Rub. A minimum value of 4 is advised.

Table 1

	10% RH	20% RH	30% RH	40% RH	41-49% RH	50-55% RH	>55% RH
5ºC	NT	48 hours	48 hours	48 hours	24 hours	24 hours	NR
15ºC	NT	24 hours	10 hours	10 hours	10 hours	NR	NR
25ºC	NT	10 hours	5 hours	5 hours	5 hours	NR	NR
35ºC	24 hours	5 hours	4 hours	3 hours	NR	NR	NR
40ºC	24 hours	3 hours	2 hours	NR	NR	NR	NR

NR: The addition of the low humidity accelerator is not recommended under these conditions as it could promote mud-cracking and/or loss of adhesion.
NT: No test data to support these conditions.

Note: Conditions are not usually static during the course of 24 hours; relative humidity fluctuates with temperature change and should be taken into account, however the overcoating times should be based on the conditions at the start of application.

6.2 Maximum Overcoating Interval

Interzinc 22 may be overcoated for an indefinite period, providing that the surface to be overcoated is intact, clean, dry and free from all zinc salts, zinc corrosion products and any other contaminants (see Note 6.3.4).

6.3 Overcoating Notes:

6.3.1 The minimum overcoating interval for Interzinc 22 should be confirmed by carrying out a solvent rub test (see section 5).

6.3.2 If zinc silicates are not fully cured, or over-applied, then application of thick topcoats can lead to splitting problems. This manifests itself in an inability to blast damaged areas back to a sound edge during repair or alternatively, adhesion failure after a period of weeks when high build epoxies have been used and caused a high degree of stress in the system. This is the most common cause of failure of zinc silicate systems.

6.3.3 'Bubbling' of the topcoat may be experienced when it is applied. This may be alleviated by applying a mist coat and allowing the air to come out of the film before application of the full coat. Alternatively, for some applications, Intergard 269 may be used as a 'sealer' coat before application of the topcoat. Overcoating fresh zinc silicate can result in pinholing. A low viscosity 'sealer' coat is preferred to a 'mist' coat as this gives more efficient penetration and sealing of the zinc. Additionally, if a mist coat is applied to decks, it must be allowed to dry sufficiently to walk on prior to application of the full coat; therefore it acts as an extra coat in the same way as the use of a sealer coat.

6.3.4 The maximum overcoating time for Interzinc 22 is indefinite but, when weathered, the zinc forms salts at the surface of the coating which can cause intercoat blistering and adhesion problems when overcoated. Depending on the atmospheric conditions, salt formation can be negligible for long periods of time or extensive in 1 to 2 weeks. The salts can be removed but require sweep blasting or high pressure water washing with scrubbing as minimum preparation.

Interzinc 22 is intended for use only by professional applicators in industrial situations in accordance with the advice given in this leaflet and on containers and should not be used without reference to the Material Health and Safety Data Sheets (MSDS) which International Protective Coatings has provided to its customers. If for any reason a copy of the relevant Material Health & Safety Data Sheets (MSDS) is not immediately available the user should obtain a copy before using the product.

Minimum safety precautions in dealing with all paints are:

- Take precautions to avoid skin and eye contact (i.e. use overalls, gloves, goggles, face mask, barrier creams etc.).
- Where possible provide adequate ventilation. In confined spaces with poor or no ventilation, use airfed hoods.
- If product comes in contact with the skin, wash thoroughly with lukewarm water and soap or suitable industrial cleaner. Do not wash with solvents. If the eyes are contaminated flush with water (minimum 10 minutes) and obtain medical attention at once.
- These coatings contain flammable materials and should be kept away from sparks and open flames. Smoking should be prohibited in the area.

Observe all precautionary notices on containers.

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