DECLARAÇÃO DE VALIDAÇÃO DO CAPÍTULO

"Proyecto Alba – Nuevas Plantas de Poliolefinas, Plataformas Logísticas y Offsites"

Data: 01/04/2025

DOSSIER DA QUALIDADE

Documentação Técnica e Certificação

CAPÍTULO 2.2.2: TRATAMENTO ANTI-CORROSIVO

✓ **APROVADO**.

Processos, procedimentos e resultados dos tratamentos anticorrosivos aplicados.

VALIDAÇÃO E VERIFICAÇÃO

Acção	Responsável	Data	Assinatura
Elaborado por: Tecnico da Qualidade	José Antunes	31/03/2025	
Aprovado por: Diretor de Obra	Luis salvado	01/04/2025	

Notas/Observações:

VALIDAÇÃO REPSOL	ASSINATURA/CARIMBO
Responsável: Data:	

2.2.2 TRATAMENTO ANTICORROSIVO

ITEM	ELEMENTO	DESCRIÇÃO	CÓDIGO	DATA
1	CHAPAS DOS MUROS AVDA. 27	RELATÓRIO DE DECAPAGEM E PINTURA DE CHAPAS	RPA-01	24/04/2024

montaco	**Relatório de Protecção Anticorrosiva**	**Relatório nr / Report nr** 01
	Coating Inspection Report	**Página / Page**

Cliente/Client : CIMONTUBO, S.A.	**Obra/Project : 2023407**
Designação/Designation: Chapas para estrutura ASCH - REPSOL	**Encomenda/Order**

Identificação da área a controlar **Area description**	**Decapagem e pitura de chapas 0,52x4,10m (14un.); 0,48x4,40m (12un.); 0,60x0,30 (14un.)**

Especificação / Specification

Preparação de superfície / Surface Preparation

Método / Method				Referencial Normativo / Standards
Manual		Grau		
Mecânica		Grau		
Decapagem	X	Grau	SA 2 1/2	ISO 8501
Hidrodecapagem		Grau		

Esquema pintura / Paint Specification

Camada	Designação dos produtos	Fabricante	Espessura
Primário	Cincoat Primer IZS920	CIN	75 µm

Controlo de Qualidade / Quality Control

Controlo das condições Ambientais / Ambient Conditions

Referência					
Data					
Hora		Ver páginas anexas			
Temperatura Ambiente					
Humidade Relativa					
Temperatura da Superfície					
Ponto de Orvalho					

Equipamento Controlo / Equipment

N.º Série	Marca	Modelo
N.INT174	ELCOMER	319
YF24621	ELCOMETER	456

Controlo de Qualidade / Quality Control

Preparação de Superfície / Surface Preparation

	Esp.	Conforme
Controlo do grau de preparação de superfície	X	OK
Rugosidade	X	OK
Outros		

Controlo de espessuras / Thickness Control

Camada	Designação	N.º medições	Média	Desvio Padrão	Máximo	Mínimo
1	Cincoat Primer IZS920	6	83,8	4,4	88	78

Obsevações / Notes

Validado MONTACO	Validado CLIENTE	Aprovado CLIENTE
Rub.	Rub.	Rub.
Data 24/04/2024	Data	Data

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TRATAMENTOS ANTICORROSIVOS E CONST. CIVIL S.A

Check - List

OBRA N.º 2023407 **DATA:** _____

CLIENTE: CIMONTUBO

DESIGNAÇÃO: Chapas para estrutura ASCH - REPSOL

CHECK - LIST DE CONTROLO EM OBRA

Campo de Aplicação	Acção	Parametro	Coformidade	Descrição da Acção Correctiva / Correcção	Aprovação Final
Decapagem e pitura de chapas 0,52x4,10m (14un.); 0,48x4,40m (12un.); 0,60x0,30 (14un.)	Verificação das superfícies	Estado limpeza geral Revestimento existente Estado de degradação Elementos a proteger	Conforme ☑ Não Conforme ☐ Acção Correctiva ☐	Data:___/___/____ Assinatura:_____	Data: 2024/04/24 Assinatura: _____
	Verificação da Decapagem /Limpeza	Grau	Conforme ☑ Não Conforme ☐ Acção Correctiva ☐	Data:___/___/____ Assinatura:_____	Data: 2024/04/24 Assinatura: _____
	Verificação das condições de aplicação do revestimento ou pintura	Existência do esquema Conhecimento das fichas técnicas Estado da superfície / rugosidade do suporte / degradação	Conforme ☑ Não Conforme ☐ Acção Correctiva ☐	Data:___/___/____ Assinatura:_____	Data: 2024/04/24 Assinatura: _____
	Verificação do revestimento ou pintura	Controlo da espessura húmida Aspecto visual Tempos de repintura Aderência	Conforme ☑ Não Conforme ☐ Acção Correctiva ☐	Data:___/___/____ Assinatura:_____	Data: 2024/04/24 Assinatura: _____

Aprovado MONTACO:	Aprovado CLIENTE:
ASSINATURA:_____	ASSINATURA:_____
DATA: 24/04/2024	DATA:___/___/____

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TRATAMENTO ANTICORROSIVO E CONST. CIVIL , S.A.

Registo de Controlo das Condições Atmosféricas e do suporte

REG. N.º 1 **DATA:** 24/04/2024

CLIENTE: **CIMONTUBO** OBRA: **2023407** DATA:

DESIGNAÇÃO: Chapas para estrutura ASCH - REPSOL

Data	Hora	Medições efectuadas					Obs.
		T.A	H.R	T.S	P.O	H.R.B	
14/03/2024	11:20	21,9 ºC	67,30%	19,5 ºC	15,6 ºC		
15/03/2024	10:25	20,2 ºC	76,70%	19,1 ºC	16,0 ºC		
19/03/2024	16:30	21,3 ºC	65,80%	21,2 ºC	14,6 ºC		
20/03/2024	17:15	18,0 ºC	74,10%	19,7 ºC	13,4 ºC		
26/03/2024	16:30	16,0 ºC	71,80%	16,6 ºC	10,9 ºC		

Legenda	
T.A	Temperatura ambiente
H.R	Humidade relativa do ar
T.S	Temperatura da superfície
P.O	Ponto de orvalho
H.R.B	Humidade residual do betão

Elaborado por: **Data:** 24/04/2024

Aprovado por: **Data:**

Dispositivos de monitorização:

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TRATAMENTO ANTICORROSIVO E CONST. CIVIL S.A.

Registo de Controlo de Espessuras

REG. N.º 1 **DATA:** 24/04/2024

CLIENTE: **CIMONTUBO** OBRA: **2023407**

DESIGNAÇÃO: Chapas para estrutura ASCH - REPSOL

DESIGNAÇÃO / IDENTIFICAÇÃO DA ÁREA A CONTROLAR: Chapas para estrutura ASCH - REPSOL

Leitura	Camadas				
	Cincoat Primer IZS920				
1	79				
2	88				
3	86				
4	88				
5	78				
6	84				
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
Média (Espessuras)	83,8				

OBSERVAÇÕES:

Validado MONTACO	Validado CLIENTE	Validado OUTROS
Rub.	Rub.	Rub.
Data 24/04/2024	Data	Data

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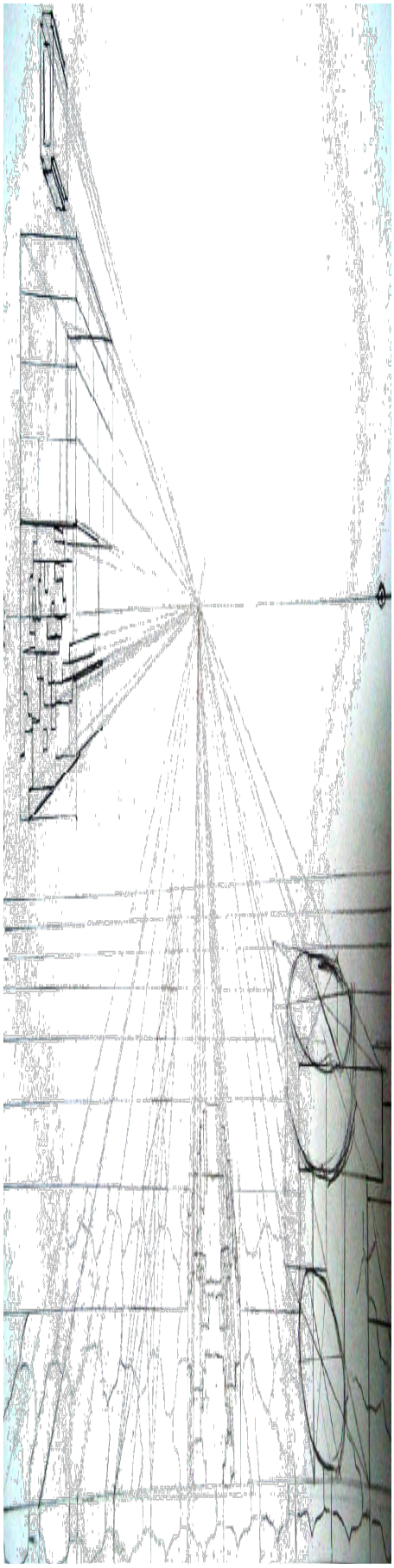
45 ANOS

Tratamentos Anticorrosivos e Construção Civil, S.A.



July of 2024
Technical Information

INDEX

1 – Objective

Establish the guide lines for coating pipe spools, equipment and structures for corrosion protection by application of several coating systems, at CIMONTUBO facilities ZILS2, and touchups at assembly site in REPSOL facilities, Sines - Portugal.

2 – Description of object of works

The scope of works is the application of several protective coating systems in pipe spools, equipment and structures according to specification, including surface preparation coating at shop and touch up at site after erection.

Systems

Scheme 1 for carbon steel at shop

- Surface blasting to a degree of Sa 2 ½ according to ISO8501-1;
- Application of 1 coat of Ethyl Silicate Zinc primer **Hempel's Galvosil E 15BES**, with a dry thickness of 70 microns;
- Application of 1 coat of intermediate Epoxy high thickness micaceous iron **Hempadur 47300 – 12430 (MIO)** with 110 microns dry thickness;
- Application of two coats of aliphatic polyurethane finish **Hempathane HS 55610** with a dry thickness of 40 microns per coat.

Scheme 4 for galvanized steel at shop

- Surface sanding (remove between 5 and 8 microns) to an overall dull grey appearance and degreasing;
- Application of 1 coat of epoxy primer for galvanized steel **Hempel's Epoxy Primer HV 15410** with a dry thickness of 30 microns;
- Application of 1 general coat of high build epoxy intermediate with aluminum **Hempadur 47300 – 19871 (AL)**, 125 microns dry thickness;
- Application of 1 coat of modified acrylic finish **Hempel's Polyenamel 55102**, with a dry thickness of 40 microns.

Scheme 1 for carbon steel at site

- Surface preparation to a degree of St 2-3 according to ISO8504-3;
- Application of 1 coat of epoxy primer with aluminum **Hempadur 47300 – 19871 (AL)**, and dry thickness of 100 microns;
- Application of 1 coat of intermediate Epoxy high thickness micaceous iron **Hempadur 47300 – 12430 (MIO)** with 110 microns dry thickness;
- Application of two coats of aliphatic polyurethane finish **Hempathane HS 55610** with a dry thickness of 40 microns per coat.

Scheme 4 for galvanized steel at site

- Surface preparation to a degree of St 2-3 according to ISO8504-3;
- Application of 1 coat of epoxy primer with aluminum **Hempadur 47300 – 19871 (AL)**, and dry thickness of 100 microns;
- Application of 1 general coat of high build epoxy intermediate with aluminum **Hempadur 47300 – 19871 (AL)**, 125 microns dry thickness;
- Application of 1 coat of modified acrylic finish **Hempel's Polyenamel 55102**, with a dry thickness of 40 microns.

3 – Standards and regulations

Manufacturer guidelines and products technical datasheets;
ISO 8501-1;

ISO 8502-1 a 4;
ISO 8503-2 e 5;
ISO 8504-2 e 3;
DIN EN ISO 12 944 parts 1 to 9;
ISO 4624 e ISO 2409
Coating Specification

4 – Execution methodologies

Use in the execution of the coating works, experienced and specialized personnel, to ensure the compliance of the required technical quality.

All work will be performed in accordance with the technical specifications, and products to be used datasheets and all instructions given by the manufacturer. The execution of works, will be monitored in accordance with the provisions of the Inspection and Test Plan, records will be performed in proper models.

4.1 – Material reception – Client property

Material will be received, unload and properly storage at CIMONTUBO facility. A suitable size portion of area will be reserve for the project and will be delimited and properly identified. All parts shall be separated from any other projects.

Material reception and placing for coating application is CIMONTUBO responsibility.

4.2 – Material handling, loads and unloads – Client property

All loads and unloads, including in shop transportation and movements will be performed using the means available.

- Fork lifters
- Telescopic fork lifters
- Trucks.

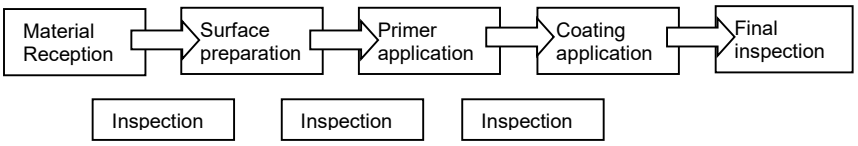
	
Fork lifters (example)	Telescopic fork lifters (example)

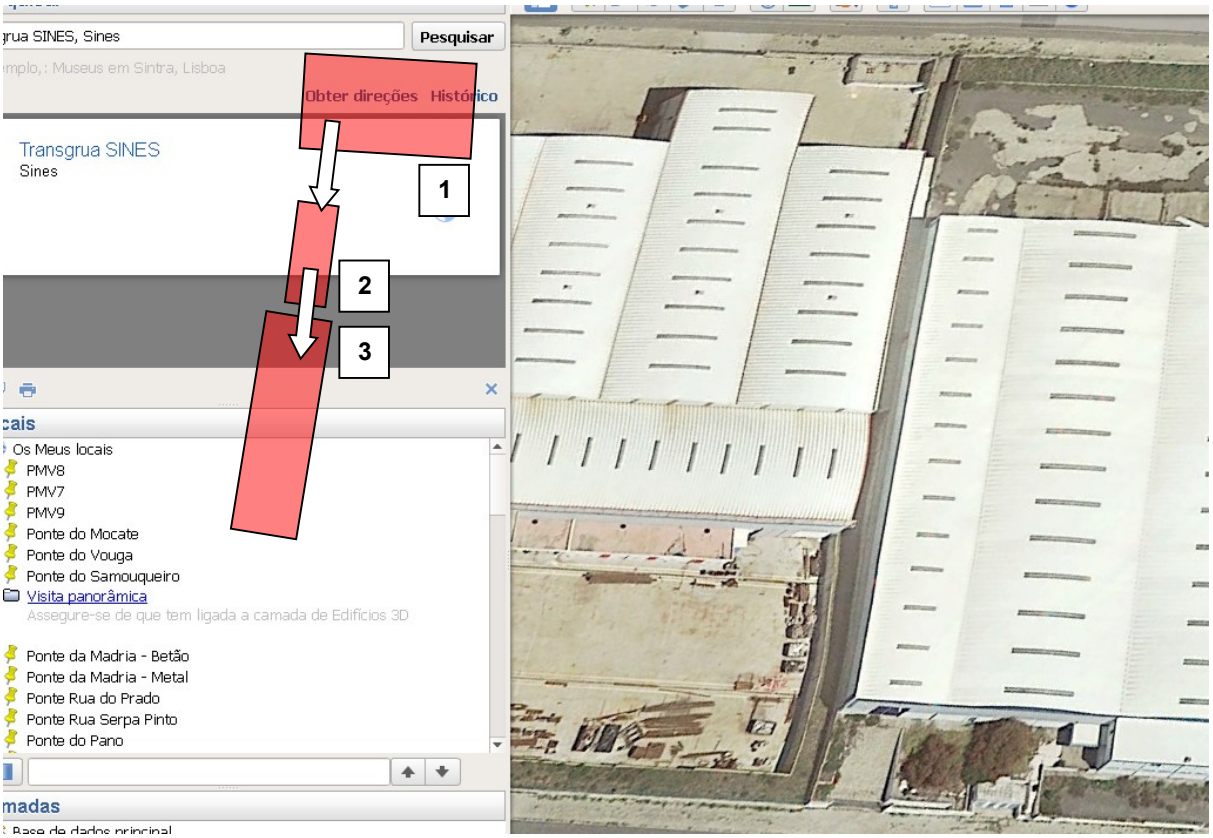
Material handling will be performed using proper accessories, more fragile parts will be protected as coated parts in contact with metallic lifting equipment and accessories.

		
Handling accessories	Handling accessories	Handling procedures

Material handling and placing for coating application is CIMONTUBO responsibility.

4.3 – Production and inspection flow chart





Legend		
1 – Material reception and storage		
2 – Blasting operation	Handling time 10-20min.	Environmental condition check
3 – Coating (primer and all layers)	Handling time 20-30min.	Environmental condition check*

Please note that in case of improper environmental condition no works will be performed.

4.4 – Hold points, quality control and immediate actions

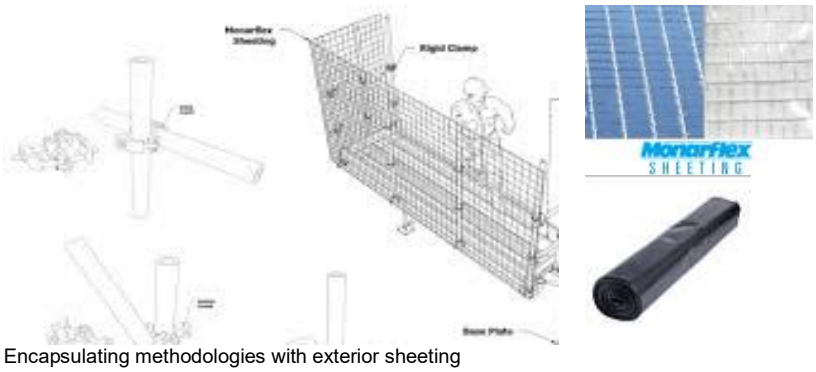
Location	Inspection / controls	Immediate actions			
		Op.	For.	Sup /QC	
1	Steel surface		X	X	Inform client for steel surfaces reparation (welding or steel defects)

2	Steel surface cleanness	X	X	X	Repeat blasting or any other action necessary
	Roughness		X	X	Check abrasive and repeat blasting
	Temperature and humidity	X	X	X	**If humidity is high** No blasting allowed **If humidity is right** Proceed with blasting
3	Paint material	X	X	X	If not right make devolution to supplier. Do not proceed with coating using this batch.
	Temperature and humidity	X	X	X	**If humidity is high** No blasting allowed **If humidity is right** Proceed with blasting
	Coating cure per layer				IOZ primer curing rub test, if ok proceed with next layer application All other layer as manufacturer datasheet.
	Film thickness	X	X	X	Control wet and dry thickness as specification
	Coating	X	X	X	Check all layer for color, layer uniformity, sags and runs, over spray, or any other visible defects. Remove and correct.

4.5 – Blasting room

Blasting area will be covered and separated from the others areas, a covered structure will be assembled to prevent dust and debris propagation. Casing will be done in scaffolding material (rigid structure), covered with Monarflex or polythene sheeting (air impermeable sheeting).

Structures and sheeting will be according to SSPC Guide 6, class 2A, this system provides high level of emissions control.



Encapsulating methodologies with exterior sheeting

4.6 – Surface preparation

Surface preparation shall be carried out by dry blast. Prior to blast cleaning, any oil, grease, dirt shall be removed either by means of a suitable solvent or alkaline cleaning agent, if necessary, in accordance with SSPC-SP1. Excessive layers of rust shall be removed by chipping.

Weld spatter, rough welds and sharp edges shall be ground smooth prior to blasting. If any identified MONTACO will solicitate for CIMONTUBO intervention. (All surface preparation as referred in ISO8501 part 3, is CIMONTUBO responsibility).

Surfaces exposed to a polluted atmosphere shall be washed down with clean fresh water prior to surface preparation.

After the required surface preparation has been achieved, all dust, debris and abrasive residues shall be removed from the blasted cleaned surface by using clean dry oil-free compressed air, dry brush or vacuum cleaner.

The surface shall then be painted before contamination or flash rusting occurs. Surfaces to be painted shall be completely dry and free from burrs, weld spatter, flux, rust loose scale, dirt, dust, grease, oil, salts and other foreign matter before any paint is applied.

Abrasives

Abrasives intended for blast cleaning carbon steels and low alloy steels are specified in ISO 8504-2. Suitable types are:

- Non-ferrous abrasive (aluminum oxide, copper slag, garnet etc).
- Sand or other materials producing silica dust shall not be used.
- The abrasives shall be free from oil, grease, moisture etc. Re-used abrasive shall be clean and free from contaminants.

Grades of Surface Finish

Surface finish shall be in accordance with ISO 8501-1. The following preparation grades are to be used:

- Sa 2½ - Very thorough blast cleaning

Surface preparation by hand or power tool cleaning

Manual cleaning using mechanical cleaning tools shall only be used for touch-up and/or repair of new construction painting in the field and only in field.

- Surface finish shall be in accordance with ISO 8504-3 grade St 3.

4.7 – Coating procedures

Storage

The painting materials shall be stored strictly in accordance with the instructions of the paint manufacturer.

Mixing

Two or multiple pack paint materials shall be mixed in accordance and under the conditions as specified by the paint manufacturer. Containers with hardener shall be completely emptied into the container of the base material. No more material shall be prepared at the same time than can be used within the time designated by the paint manufacturer as "pot life".
Mixing shall be done in a well-ventilated, clean and dust-free area. Paints shall be mixed by rotating power mixers or rolling rigs, until a uniform consistency is achieved.

Thinners and solvents

Only additives, thinners, solvents, etc., as recommended by the paint manufacturer, shall be used. A possible extension of the "pot life" by the additions of thinners is prohibited.

Paint application

The paint shall be applied in accordance with the paint manufacturer’s product data sheet, which shall include the mix ratio, method of application and details regarding the use of thinners and overcoating times.
The dry film thickness shall be as per the paint system requirements. Areas with inadequate coating thickness shall be repaired.

During each coating application, stripe coating shall be applied to areas where the shape and / or plane of application will result in thinly applied coatings e.g. at edges, welds, corners to ensure that the minimum DFT is achieved.

If condensation, rain, dust or other foreign materials contaminate the surface of a paint coating which is not dry to touch, the paint shall be removed, the surface re-cleaned and fresh paint applied in accordance with this specification.

Coating of welds shall be applied after completion of all required pressure testing.

A gap of 50mm shall be left free of primer at plate edges, pipe ends, etc., which are to be welded.

Workmanship

Paint application shall be of a first-class workmanship, with a uniform film thickness and appearance and shall be free of brush marks, sags, runs, foreign matter, etc.

Care shall be taken to protect adjacent equipment, piping, structure, etc. from spillage and spatter during field painting by use of adequate temporary covers.

Weather conditions

Painting shall not be performed when the temperature of the surface is less than 3ºC above the dew point of the surrounding air or when the relative humidity of the air is greater than 85%.

If solvent based Inorganic zinc silicates are used these shall only be applied when the relative humidity is above 50%.

Guidance on the estimation of the probability of condensation can be found in ISO 8502-4. The measurement of these conditions will be executed by MONTACO.

For application and curing of epoxy below 10ºC, surface or ambient temperature, a winter formulation shall be used or forced curing shall be applied.

When steel is painted in hot weather, precautions shall be taken to ensure that the specified DFT of paint is obtained.

In addition, paints shall not be applied under the following conditions:

- When the surface temperature is greater than 40ºC, unless the paint is suited for application at this temperature.
- When the air temperature is less than 5ºC.
- When there is the likelihood of an unfavorable change in weather conditions within two hours after painting.
- When there is a deposition of moisture in the form of rain, condensation, frost, etc.

Spray application

Airless or pneumatic spray applications are the preferred method of application. Spray painting in the field may cause interference with other work so approval must first be obtained from the Principal.

If spray painting is to be carried out, the following shall be taken into account: The correct spray tips, air pressures etc. as recommended by the equipment supplier, shall be used.

Each coat shall be applied uniformly and completely over the entire surface. All runs and sags shall be brushed out immediately or the paint removed and re-sprayed. Very complex structures should be painted by brush instead of spray gun to avoid overspray, dry spray and unacceptable paint losses.

Brush application

Brush application may be used in the following circumstances:

- When areas cannot be properly coated by spraying for any reason, such as material or environmental considerations.
- For the initial and subsequent coats of paints to corners, edges, crevices, holes, welds or irregular surfaces prior to spray application.
- For touch-up or repairs in shop and field, to localized damaged paint or areas of incorrectly applied paint.
- Where the paint manufacturer considers the coating material suitable for brush application.

Brushes shall be in a style and quality that will permit proper application of the paint.

Brush applications should be done in two passes that are perpendicular to each other so that a smooth coat, as near uniform in thickness as possible, is obtained. There should be no deep or detrimental brush marks. Paint shall be worked into all crevices and corners. Runs and sags shall be brushed out.

Roller application

Roller application shall only be used on relatively large surface areas and only if spraying is not an option. Roller application shall only be used for subsequent coats after the priming coat has been applied by brush. Roller application shall be in accordance with the paint manufacturer's instructions.

Repair of damaged primers and coatings

Surfaces which are damaged or have DFT out of tolerance shall be ground back to bare metal in accordance with St 3 and re-coated, within 4 hours.

Areas requiring to be re-primed shall be re-blasted or needle-gun cleaned for areas originally abrasive blasted.

Re-priming shall be done with the same primer as originally applied. Where this is not feasible, the primer used shall be compatible and be suitable for the operating temperature.

Where shop coating has been damaged in handling, all damaged and blistered coating shall be removed by hand or power tool cleaning. Edges of the breaks shall be feathered and the specified number of prime and finished coats applied. Repair of coating is subject to inspection by principal.

5 – Coating System

System 1 Shop	Hempel's Galvosil E 15BES Hempadur 47300 – 12430 (MIO) Hempathane HS 55610 – cor a definir
System 4 Shop	Hempel's Epoxy Primer HV 15410 Hempadur 47300 – 19871 (AL) Hempel's Polyenamel 55102 – cor a definir
System 1 Shop	Hempadur 47300 – 19871 (AL) Hempadur 47300 – 12430 (MIO) Hempathane HS 55610 – cor a definir
System 4 Shop	Hempadur 47300 – 19871 (AL) Hempadur 47300 – 19871 (AL) Hempel's Polyenamel 55102 – cor a definir

Paints datasheets

As attachment.

6 – Quality control and inspection

6.1 – General considerations and inspections board

Previously to the beginning of the coating works, environmental condition will be controlled to ensure their proper execution, observing the requirements of the specification, product datasheets and MONTACO internal procedures.

All verifications and records will be performed in accordance with the requirements of specification and inspection plan.

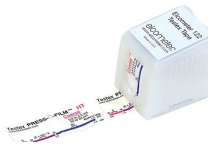
Inspection of	Method	Frequency	Acceptance criteria	Consequence
Temperature and humidity	Ambient temperature. Steel surface. Temperature relative air humidity. Dew point.	Before start of each work shift. 2 times per work shift.	According to specification **RH<85%** **RH>50% (IOZ)** **DPT>3ºC**	No blast cleaning or coating application
Steel surface	Visual	100% of all surfaces	**No visible defects**	Repair of defect
Roughness	ISO 8503-5 ASTM D4417 - Method C	Spot checks (one test per 100m2)	According to specification **Greater than 50microns**	New blast cleaning
Cleanness	Visual ISO8501-1	100% of all surfaces	According to specification **SA2 ½ and ST3.**	New blast cleaning
Paint and blasting material	Examine paint and hardener designation and batch N°, blast abrasive.	Before start of each work shift	According to specification	Corrective action
Curing IOZ	Rub test MEK ASTM D4752, only for IOZ coatings. Coin rub test.	Spot checks, previous to 2nd layer application	According to specification. **Rating 4 or higher.**	Corrective action
Film thickness	Electromagnetic SSPC PA2 ISO2808	Spot checks	According to specification and table below – Sampling Plan. **Level 4 as SSPC PA2.**	Corrective action
Paint coating	Visual	100% of all surfaces for each coat	No defects	Repair of defect

19840)

Table 1 — S

Area/length of inspection area m² or m	Minimum nu measurer
up to 1	5
above 1 to 3	10
above 3 to 10	15
above 10 to 30	20

6.2 – Quality control equipment's

Roughness	Wet thickness comb	Termo-hygrometer	Dry thichness gauge
ELCOMETER 122 E 124	ELCOMETER 112 AL	ELCOMETER 319	ELCOMETER 456
			

All equipment's are verified / calibrated according to internal verification/calibration plan – Verification / calibrations certificates attached.

6.3 – Inspection procedure and inspection team

All quality control will be performed at location by operators and supervisor, dully supported by qualified technicians for quality control with programed visits.

All operations quality control inspection in process will be performed by operators and supervisor / foreman.

Quality control as foreseen in the ITP, will be performed by supervisor / foreman at site, dully qualified to perform all tests required. Supervisor / foreman has internal qualification as Quality inspector in conformity with Coating specification requirements.

All internal quality control technicians and supervisors / foremen are internally qualified to perform quality control, MONTACO internal qualification is provided by experienced Quality Control Technician.

Final reports will be verified and signed by experienced Quality Control Technician, who will also perform one site audit / visit per month.

6.4 – Inspection hold points and records

Inspection will be performed as specified, inspection hold points and criteria as explained in "Coating Specification".

7 – Scheduling and working plan considerations

Upon receiving formal order, MONTACO will initiate all preparation works and make provisions with scaffoldings structures material and Monarflex or polyethylene sheeting. Sufficient ventilation and dust removal will be made available for this project.

MONTACO will also ensure proper preparation of the workers and technicians involved in works.
MONTACO will affect to works several workers, all qualified internally.

8 – Colour – RAL

System 1	According to TABLA II. CROMATICIDAD EN LÍNEAS e TABLA IV. CROMATICIDAD EN ELEMENTOS Y EQUIPOS
System 4	According to TABLA II. CROMATICIDAD EN LÍNEAS e TABLA IV. CROMATICIDAD EN ELEMENTOS Y EQUIPOS

9 – Safety

9.1 – Basic rules of site organisation

- It is forbidden to leave rags or waste scattered or lying around, whether or not soaked in chemical products.
- Tools, bolts and other materials or equipment that will be used in any operation or repair must be properly stored.
- Likewise, materials in storage must be properly stored.
- Passageways must be kept clear at all times and any obstructions that are absolutely and temporarily necessary on site must be signalled.
- Electrical cables, ropes or hoses must not be left in stairwells, floors or passageways unless absolutely necessary for ongoing operations.
- All fire-fighting equipment and personal protective equipment must be kept in their places and access to them must be unobstructed at all times.

9.2 – Equipment and tools

All equipment's, tools and accessories must be in good operating or use conditions, must have in placed all manufacturer protections and safety devices.

9.3 – Product safety datasheets

All safety datasheet of chemical products in use must be present at site and with easy access to all personnel.

9.4 – Protective equipment plan

Collective protection equipment

The implementation of collective protection consists of an action established at the level of the source of the risk, which thus establishes a protection of considerable effectiveness with regard to each and every person who is exposed to it.

Location	Measure
Blasting Cabin	Installation of ventilation with dust removal and filtration
Blasting Cabin	Installation of sufficient lighting
Blasting and coating area	Installation of Fire extinguishers

Personal protective equipment

Personal Protective Equipment is all the equipment intended for the worker's personal use to protect against risks that threaten their safety while carrying out their tasks.

MANDATORY PPE			
PPE	BODY PART	RISK	OBSERVATIONS
Helmet	Head	Falling objects Shocks	Not mandatory - When necessary
Blasting helmet	Respiratory system	Dust Projections	When blasting
Breathing masks	Respiratory system	COV Dust Projections	When airless sprying
Protection boots	Feet	Fallen objects Punctures	At all times
Glasses	Eyes	Projections	At all times
Coverall / working cloths	All body	Contact with substances	At all times
Gloves	Hands	Dermatoses, cuts and bruises	At all times
Ear plugs	Ears	Ear damage and loss of earing	When blasting

10 – Attachments

Paints datasheets
Verification / calibration Certificates