

Interpon D Approved Applicators Manual Update Sheet 03/2021

For Aluminium Building Products



Update Sheet 03/2021 for Applicator Manual Issue Dated 01/2020



Updates Provided:

- Guarantee requirements for hazardous environments: modification of the minimum applied film thickness from 70 μ →60 μ for D2525.
- Global guarantee: modification of the minimum applied film thickness from 70 μ →60 μ for Interpon D1036 & D2525 in hazardous environments.
- Use of updated ISO12944:2018 Environmental Classification to include CX for swimming pools and differentiation between high pollution/corrosivity (C4) and very high pollution/corrosivity (C5).
- Removal of the guarantee requirement to coat secondary surfaces in hazardous conditions.
- Fire test guidance: updated notes confirming the average film thickness should not exceed 110 μ for EN13501 A2 compliance.

5 Interpon D Guarantee

We operate in a global market: increasingly projects are specified or supported by contractors in several countries outside of the UK.

To ensure guarantee consistency a new guarantee will be offered and referred to as a European/Global guarantee and should be offered by UK applicators for projects both within the UK & globally.

The terms and conditions of this new guarantee for both Interpon D1036 and D2525 are outlined in pages 43-54.

In parallel with this new system, the previous UK guarantee will still be available to all Interpon D approved applicators. This will be referred to as the UK/Local guarantee and can be used at the discretion of the Interpon D approved applicator.

5.1 Classification of Environments

The ability of Interpon D range of Architectural Powder Coatings to protect and decorate aluminium is affected by many environmental factors including location, pollution, contamination, erosion etc. The effect of these factors is exaggerated when the location is hazardous such as a marine or industrial environment.

ISO 12944-2-2018 provides tables of corrosion classes with typical environments for both atmospheric and immersion conditions. These environments are to be interpreted as an indication of the circumstances that the coating system is designed to resist for extended periods.

Classification	Typical Exterior Environments	Typical Interior Environments
C1 – Very Low		Heated buildings with clean atmospheres e.g. Offices, schools, shops, hotels
C2 – Low	Atmospheres with low level of pollution. Mostly rural areas.	Unheated buildings where condensation may occur e.g. depots, warehouses, sports halls
C3 – Medium	Urban and industrial atmospheres, moderate sulphur dioxide pollution. Coastal areas with low salinity.	Production rooms with high humidity and some air pollution e.g. food processing plants, laundries, breweries, dairies
C4 – High	Industrial areas and coastal areas with moderate salinity.	Chemical plants, swimming pools, coastal shipyards.
C5 – Very High	Industrial areas with high humidity and aggressive atmosphere and coastal areas with high salinity	Buildings or areas with almost permanent condensation and high pollution and chlorides.

5.2 Guarantee Matrix – Aluminium Substrates – UK/Local

Environment		Interpon D System			
		Interpon D1036		Interpon D2525	
		Guarantee Period	Requirements ¹	Guarantee Period	Requirements ¹
Normal C3 Inland		30 years all finishes and gloss levels	Clean every 12 months	40 years all finishes and gloss levels	Clean every 18 months
Marine - C4 Coastal	2000m - 5000m from coastline	30 years all finishes and gloss levels	Minimum 60 microns	40 years all finishes and gloss levels	Minimum 60 microns
			Clean every 12 months		Clean every 12 months
Marine - C5	500m - 2000m from coastline	30 years all finishes and gloss levels	Minimum 60 microns	40 years all finishes and gloss levels	Minimum 60 microns
			Clean every 6 months		Clean every 6 months
Marine - C5	50 - 500m from coastline	25 years all finishes and gloss levels	Minimum 60 microns	30 years all finishes and gloss levels	Minimum 60 microns
			Clean every 3 months		Clean every 3 months
	Less than 50m from coastline	Not available		Not available	
Industrial - C4	2000m - 5000m from source of pollution	30 years all finishes and gloss levels	Minimum 60 microns	40 years all finishes and gloss levels	Minimum 60 microns
			Clean every 12 months		Clean every 12 months
Industrial - C5	500m - 2000m from source of pollution	30 years all finishes and gloss levels	Minimum 60 microns	40 years all finishes and gloss levels	Minimum 60 microns
			Clean every 6 months		Clean every 6 months
Industrial - C5	50 - 500m from source of pollution	25 years all finishes and gloss levels	Minimum 60 microns	25 years all finishes and gloss levels	Minimum 60 microns
			Clean every 3 months		Clean every 3 months
	Less than 50m from source of pollution	Not available		Not available	
Swimming Pools - CX	Greater than 2m from edge of pool	25 years all finishes and gloss levels	Minimum 60 microns	25 years all finishes and gloss levels	Minimum 60 microns
			Clean every 3 months		Clean every 3 months
	Less than 2m from edge of pool	Not available		Not available	

Notes: Environmental classification as defined by ISO 12944-2-2018

¹ Refer to Interpon D Approved Applicator Manual for full explanation of requirements

5.3 Guarantee Matrix – Aluminium Substrates – European/Global Matrix

Environment		Interpon D System			
		Interpon D1036		Interpon D2525	
		Guarantee Period	Requirements ¹	Guarantee Period	Requirements ¹
Normal C3 Inland		15 years all finishes and gloss levels	Clean every 12 months	25 years all finishes and gloss levels	Clean every 18 months
Marine – C4 Coastal	50 - 5000m from coastline	15 years all finishes and gloss levels	Minimum 60 microns	25 years all finishes and gloss levels	Minimum 60 microns
Marine – C5	Less than 50m from coastline		Clean every 3 months		Clean every 6 months
		Not available		Not available	
Industrial – C4	50 - 5000m from source of pollution	15 years all finishes and gloss levels	Minimum 60 microns	25 years all finishes and gloss levels	Minimum 60 microns
Industrial – C5	Less than 50m from source of pollution		Clean every 3 months		Clean every 6 months
		Not available		Not available	
Swimming Pools - CX	Greater than 2m from edge of pool	25 years all finishes and gloss levels	Minimum 60 microns	25 years all finishes and gloss levels	Minimum 60 microns
	Less than 2m from edge of pool		Clean every 3 months		Clean every 3 months
		Not available		Not available	

Notes: Environmental classification as defined by ISO 12944-2-2018

¹ Refer to Interpon D Approved Applicator Manual for full explanation of requirements

6 Hazardous Environments

The guarantee is given for coated parts exposed under “normal” environmental conditions; these are locations where the local conditions do not adversely affect to properties of the powder-coated film. This is designated as a C3 environment under the classifications given in ISO 12944-6-2018.

Hazardous environments are those areas where the conditions may adversely affect the properties of the powder-coater film; these areas are classified under the following descriptions:

1. Marine Environment – areas that are strongly affected by marine and salt laden atmospheres.
2. Industrial Environment – areas of industrial pollution.
3. Swimming & Leisure Pool Environment – areas enclosing or in close proximity to a swimming or leisure pool.

In the case of these “hazardous” environments additional precautions need to be followed and these are outlined in the sections that follow.

Conformation of Applied Film Thickness for Interpon D Applicators

Test in accordance with:- BS EN 12206-1:2004, Annex C

Interpon D1036

Film Thickness for a Non Hazardous Environment (C3 and Below)

The **average** minimum thickness of the applied coating must be at least 50 microns and not less than 40 microns at any point.

Film Thickness for a Hazardous Environment (C4,C5,& CX)

The **average** minimum thickness of the applied coating must be at least 60 microns and not less than 50 microns at any point.

Interpon D2525

Film Thickness for a Non Hazardous Environment (C3 and Below)

The **average** minimum thickness of the applied coating must be at least 60 microns and not less than 50 microns at any point.

Film Thickness for a Hazardous Environment (C4,C5 & CX)

The **average** minimum thickness of the applied coating must be at least 60 microns and not less than 50 microns at any point.

NB: Certain powder coatings require a minimum thickness of 80 microns to ensure full pigment opacity. Always check the Technical Data Sheet and avoid applying a film thickness >110µ maximum average.

Please see the Guarantee Matrix for the cleaning requirements

No blisters, craters, pinholes or scratches shall be visible from a distance of 1 metre. However, note BS EN12206-1:2004 specifies a distance of 3 metres for internal components (as does Qualicoat) and 5 metres for external components. It is recommended that clarification of this point is made with the end user.

6.1 Interpon D1036 Hazardous Environments – UK/Local Guarantee Conditions

The ability of Interpon D1036 range of Architectural Powder Coatings to protect and decorate aluminium is affected by many environmental factors including location, pollution, contamination, erosion etc. The effect of these factors is exaggerated when the location is hazardous such as a marine or industrial environment. Any guarantee, if offered will be considered with prior knowledge of the location and any factors that may affect the life expectancy of the coating.

6.1.1 Marine Environments (C4 & C5 Coastal)

A marine environment is any location within 5,000 metres of a coastal shoreline and may also include areas such as estuaries and tidal rivers.

For areas 5,000 – 2,000 metres from the marine environment the following additional precautions must be followed:

Interpon D1036	Change to Terms and Conditions
Minimum Film Thickness	60 microns on all significant surfaces
Edge Protection	There must be no bare metal edges. All mitres, cut edges and drilled holes to be sealed.
Repair Procedure	All breakage in the film to be repaired within 24 hours.
Cleaning & Maintenance	At least every 12 months.

For areas 2,000 – 500 metres from the marine environment the following additional precautions must be followed:

Interpon D1036	Change to Terms and Conditions
Minimum Film Thickness	60 microns on all significant surfaces
Edge Protection	There must be no bare metal edges. All mitres, cut edges and drilled holes to be sealed.
Repair Procedure	All breakage in the film to be repaired within 24 hours.
Cleaning & Maintenance	At least every 6 months.

For areas 500 – 50 metres from the marine environment the following additional precautions must be followed:

Interpon D1036	Change to Terms and Conditions
Minimum Film Thickness	60 microns on all significant surfaces
Edge Protection	There must be no bare metal edges. All mitres, cut edges and drilled holes to be sealed.
Repair Procedure	All breakage in the film to be repaired within 24 hours.
Cleaning & Maintenance	At least every 3 months.

For areas less than 50 metres from the high water level of a marine environment then no guarantee is offered. Under these circumstances you should refer to Akzo Nobel Powder Coatings Ltd.

6.1.2 Industrial Environments (C4 & C5 Industrial)

An industrial environment is any location within 5,000 metres of a source of solid, liquid or gaseous airborne pollution that may cause the degrading of the powder coating.

For areas 5,000 – 2,000 metres from the industrial environment the following additional precautions must be followed:

Interpon D1036	Change to Terms and Conditions
Minimum Film Thickness	60 microns on all significant surfaces
Edge Protection	There must be no bare metal edges. All mitres, cut edges and drilled holes to be sealed.
Repair Procedure	All breakage in the film to be repaired within 24 hours.
Cleaning & Maintenance	At least every 12 months.

For areas 2,000 – 500 metres from the industrial environment the following additional precautions must be followed:

Interpon D1036	Change to Terms and Conditions
Minimum Film Thickness	60 microns on all significant surfaces
Edge Protection	There must be no bare metal edges. All mitres, cut edges and drilled holes to be sealed.
Repair Procedure	All breakage in the film to be repaired within 24 hours.
Cleaning & Maintenance	At least every 6 months.

For areas 500 – 50 metres from the industrial environment the following additional precautions must be followed:

Interpon D1036	Change to Terms and Conditions
Minimum Film Thickness	60 microns on all significant surfaces
Edge Protection	There must be no bare metal edges. All mitres, cut edges and drilled holes to be sealed.
Repair Procedure	All breakage in the film to be repaired within 24 hours.
Cleaning & Maintenance	At least every 3 months.

For areas less than 50 metres from an industrial environment no guarantee is offered. Reference should be made to Akzo Nobel Powder Coatings Ltd.

6.1.3 Swimming and Leisure Pools (CX)

A hazardous environment is created inside a swimming pool building as a result of high humidity and chemical build up.

The design of the structure should be such as to facilitate easy run off of liquid materials and the avoidance of all water traps. This will ensure there is no build-up of concentrated contaminants and prevent corrosion cells forming.

Interpon D1036	Change to Terms and Conditions
Film Thickness	60 microns minimum
Non-Significant Surfaces	Minimum 40 microns
Edge Protections	There must be no bare metal edges. All mitres, cut edges and drilled holes to be sealed.
Repair Procedure	All breakages in the film to be repaired within 24 hours.
Cleaning & Maintenance	All internal coated components must be washed with clean (chemical free) water at least once per week to ensure no chemical build up. All external facade components should be washed every 3 months.

6.1.4 Quality Testing for Hazardous Environments

The frequency of testing for Hazardous environments must be increased and an additional set of panels prepared and stored at the Approved Architectural applicators premises for the period of the guarantee.

These panels will be made available to AkzoNobel Powder Coatings Technical Department upon Request Only.

Recommended Test Frequency

Lot size	Number of samples. (Random selection)	Accepted limit for sub-standard samples
1 – 10	All	0
11 – 200	10	0
201 – 300	15	0
301 – 500	20	1
501 – 800	30	1
801 – 1,300	40	1
1,301 – 3,200	55	2
3,201 – 8,000	75	3
8,001 – 22,000	115	4
22,001 – 110,000	150	5

Akzo Nobel Powder Coatings Ltd. must be informed of any failures and in case of failure the work must be quarantined until a full evaluation of the failure has been investigated by Akzo Nobel Powder Coatings Ltd.

6.2 Interpon D2525 Hazardous Environments – UK/Local Guarantee Conditions

The ability of Interpon D2525 range Architectural Powder coatings to protect and decorate aluminium is affected by many environmental factors including location, pollution, contamination, erosion etc. The effect of these factors is exaggerated when the location is hazardous such as a marine or industrial environment.

Any guarantee, if offered will be considered with prior knowledge of the location and any factors that may affect the life expectancy of the coating.

6.2.1 Marine Environment (C4 & C5 Coastal)

A marine environment is any location within 5,000 metres of a coastal shoreline and may also include areas such as estuaries and tidal rivers.

For areas 5,000 – 2,000 metres from the marine environment the following additional precautions must be followed:

Interpon D2525	Change to Terms and Conditions
Minimum Film Thickness	60 microns on all significant surfaces
Edge Protection	There must be no bare metal edges. All mitres, cut edges and drilled holes to be sealed.
Repair Procedure	All breakage in the film to be repaired within 24 hours.
Cleaning & Maintenance	At least every 12 months.

For areas 2,000 – 500 metres from the marine environment the following additional precautions must be followed:

Interpon D2525	Change to Terms and Conditions
Minimum Film Thickness	60 microns on all significant surfaces
Edge Protection	There must be no bare metal edges. All mitres, cut edges and drilled holes to be sealed.
Repair Procedure	All breakage in the film to be repaired within 24 hours.
Cleaning & Maintenance	At least every 6 months.

For areas 500 – 50 metres from the marine environment the following additional precautions must be followed:

Interpon D2525	Change to Terms and Conditions
Minimum Film Thickness	60 microns on all significant surfaces
Edge Protection	There must be no bare metal edges. All mitres, cut edges and drilled holes to be sealed.
Repair Procedure	All breakage in the film to be repaired within 24 hours.
Cleaning & Maintenance	At least every 3 months.

For areas less than 50 metres from the high water level of a marine environment then no guarantee is offered. Under these circumstances you should refer to Akzo Nobel Powder Coatings Ltd.

6.2.2 Industrial Environment (C4 & C5 Industrial)

An industrial environment is any location within 5,000 metres of a source of solid, liquid or gaseous airborne pollution that may cause the degrading of the powder coating.

For areas 5,000 – 2,000 metres from the industrial environment the following additional precautions must be followed:

Interpon D2525	Change to Terms and Conditions
Minimum Film Thickness	60 microns on all significant surfaces
Edge Protection	There must be no bare metal edges. All mitres, cut edges and drilled holes to be sealed.
Repair Procedure	All breakage in the film to be repaired within 24 hours.
Cleaning & Maintenance	At least every 12 months.

For areas 2,000 – 500 metres from the industrial environment the following additional precautions must be followed:

Interpon D2525	Change to Terms and Conditions
Minimum Film Thickness	60 microns on all significant surfaces
Edge Protection	There must be no bare metal edges. All mitres, cut edges and drilled holes to be sealed.
Repair Procedure	All breakage in the film to be repaired within 24 hours.
Cleaning & Maintenance	At least every 6 months.

For areas 500 – 50 metres from the industrial environment the following additional precautions must be followed:

Interpon D2525	Change to Terms and Conditions
Minimum Film Thickness	60 microns on all significant surfaces
Edge Protection	There must be no bare metal edges. All mitres, cut edges and drilled holes to be sealed.
Repair Procedure	All breakage in the film to be repaired within 24 hours.
Cleaning & Maintenance	At least every 3 months.

For areas less than 50 metres from an industrial environment no guarantee is offered. Reference should be made to Akzo Nobel Powder Coatings Ltd.

6.2.3 Swimming and Leisure Pools (CX)

A hazardous environment is created inside a swimming pool building as a result of high humidity and chemical build up.

The design of the structure should be such as to facilitate easy run off of liquid materials and the avoidance of all water traps. This will ensure there is no build up of concentrated contamination and prevent corrosion cells forming.

Interpon D2525	Change to Terms and Conditions
Film Thickness	60 microns minimum
Non-Significant Surfaces	Minimum 40 microns
Edge Protection	There must be no bare metal edges. All mitres, cut edges and drilled holes to be sealed.
Repair Procedure	All breakages in the film to be repaired within 24 hours.
Cleaning & Maintenance	All internal coated components must be washed with clean (chemical free) water at least once per week to ensure no chemical build up. All external facade components should be washed every 3 months.

6.2.4 Quality Testing for Hazardous Environments

The frequency of testing for Hazardous environments must be increased and an additional set of panels prepared and stored at the Approved Architectural applicators premises for the period of the guarantee. These panels will be made available to AkzoNobel Powder Coatings Technical Department upon Request Only.

Recommended Test Frequency

Lot size	Number of samples. (Random selection)	Accepted limit for sub-standard samples
1 – 10	All	0
11 – 200	10	0
201 – 300	15	0
301 – 500	20	1
501 – 800	30	1
801 – 1,300	40	1
1,301 – 3,200	55	2
3,201 – 8,000	75	3
8,001 – 22,000	115	4
22,001 – 110,000	150	5

Akzo Nobel Powder Coatings Ltd. must be informed of any failures and in case of failure the work must be quarantined until a full evaluation of the failure has been investigated by Akzo Nobel Powder Coatings Ltd.

6.3 Interpon D1036 and D2525 Hazardous Environments – European/Global Guarantee Conditions

6.3.1 Marine (C4 & C5 Coastal) and Industrial (C4 & C5) Environment

Under the conditions of the European/Global guarantee, there are additional precautions that need to be followed for areas between 50-5000 metres from the marine and industrial environments.

Interpon D1036 and D2525	Change to Terms and Conditions
Pre-Treatment	Etch rate of at least 1.5g/m ²
Film Thickness	60 microns minimum
Edge Protection	There must be no bare metal edges. All mitres, cut edges and drilled holes to be sealed.
Repair Procedure	All breakages in the film to be repaired within 24 hours.
Cleaning & Maintenance	See Guarantee Matrix (page 28)

Please note that there are no differential requirements for Interpon D1036 and D2525.

6.3.2 Swimming and Leisure Pools (CX)

A hazardous environment is created inside a swimming pool building as a result of high humidity and chemical build up.

The design of the structure should be such as to facilitate easy run off of liquid materials and the avoidance of all water traps. This will ensure there is no build up of concentrated contamination and prevent corrosion cells forming.

Interpon D1036 and D2525	Change to Terms and Conditions
Film Thickness	60 microns minimum
Edge Protection	There must be no bare metal edges. All mitres, cut edges and drilled holes to be sealed.
Repair Procedure	All breakages in the film to be repaired within 24 hours.
Cleaning & Maintenance	All internal coated components must be washed with clean (chemical free) water at least once per week to ensure no chemical build up.

9.6 Fire Test Certificate

Building Regulations SI 2018/1230 (Dec 2018) ban the use of combustible materials on new high-rise homes over 18 metres high, schools, hospitals, residential care homes and student accommodation.

The new regulation requires all materials that become part of an external wall to achieve a minimum class A2-s1, d0 rating (limited combustibility) when tested in accordance with EN13501-1 2007.

Exempted components (7.3) include door frames and window frames.

Interpon D coatings have been tested and certified to generically meet EN13501-1 2007 A2-s1, d0 between 60-90 microns. The coating film thickness should not exceed an average of 110 microns to ensure A2 compliance and some applications may give differing results – system manufacturers should offer suitable guidance to powder applicators.

Building Regulations and Legislation are updated regularly so expert advice should be sought if required relating to Fire Test requirements and certification.

Surface Spread of Flame

BS476: Part 7: 1997 (Interscience Fire Laboratory)

Result - 6 panels tested gave NIL spread of flame – Class 1 (Low Spread of Flame)

Toxic Fume Emission

Qualitative Analysis

Test in accordance with 4R-E208

Analysis showed the following elements: -

Carbon; Oxygen; Aluminium; Silicon; Titanium

Quantitative Analysis

Expressed as percentage wt/wt.

Nitrogen	Carbon	Sulphur
<0.27	47.68	0.05

Weighted Summation of Toxic Fume, R

The test results obtained for toxicity measurements were used to calculate the weighted summation index, R, as described in BS 6853:1999, clause B.4.2.

The R Value determined was 0.51.