

ISO 12944

Protect your assets in three easy steps



Select your ISO 12944 compliant system in 3 easy steps

Step 1 Select the corrosive environment

Use the following table to select the most appropriate classification for your project:

ISO 12944 CLASSIFICATION	TYPICAL ENVIRONMENTS
C1 C2	Heated buildings/neutral atmosphere Rural areas, low pollution
C3	Urban and industrial atmospheres Moderate sulfur dioxide levels Production areas with high humidity
C4	Industrial and coastal Chemical processing plants
C5I	Industrial areas with high humidity and aggressive atmospheres
C5M	Marine, offshore*, estuaries, coastal areas with high salinity

* Corrosion protection in ISO 12944 C5M - Offshore environments is being addressed via a new standard (ISO 20340) dedicated to this environment

These environments are based on experiments that have measured the rate of metal loss for uncoated steel. The classification of environments applies to structural steel exposed to ambient (less than 248°F [120°C]) conditions.



Many city locations could be classified as ISO 12944 C3

Step 2 How long until first major maintenance?

Use the following table to select how durable you want your coating system to be. The higher the durability, the longer the time to first major maintenance:

High Durability	>15 years to first major maintenance
Medium Durability	5-15 years to first major maintenance
Low Durability	<5 years to first major maintenance

Remember, when selecting the most cost effective system for your project, durability does not equate to a guarantee time. Durability relates to the performance duration of the coating system before first major maintenance. Regular minor maintenance should always be anticipated in order to achieve the required life to first major maintenance.



C5M Marine environments present the toughest conditions and require more durable systems

Why is ISO 12944 so important?

ISO 12944 Paints & Varnishes - Corrosion protection of steel structures by protective paint systems (parts 1-8) (1998).

The ISO 12944 standard is intended to assist engineers and corrosion experts in adopting best practice in corrosion protection of structural steel at new construction.

ISO 12944 is progressively superseding regional standards to become a truly global benchmark in corrosion control.

Selecting specifications that comply with ISO 12944 provides you with:

- Confidence that the corrosion protection you specify will be fit for purpose
- An objective approach to coating selection
- A simplified matrix of coating systems to select from
- A meaningful coating design life
- A universally accepted standard

Understanding your ISO environment can help to tailor specifications, ensuring your coatings are not under or over specified and saving you unnecessary cost.

Step 3 Select your ISO 12944 compliant system

The coating systems described in this brochure have been evaluated against ISO and ASTM test standards and self certified to ISO 12944 part 6.



Regular inspection and routine maintenance via our Interplan™ service will assist in achieving the required design life for the coating system

ISO 12944 ENVIRONMENT	DESIGN LIFE/DURABILITY <5 YEARS	DESIGN LIFE/DURABILITY 5-15 YEARS	DESIGN LIFE/DURABILITY >15 YEARS
C1	A	A	A
C2	A	A	B
C3	B or C	B or C	D, E or F
C4	#	G or H	G or H
C5I and C5M	#	I or J	I or J

We do not routinely recommend systems for Design Lives <5 years in C4 or C5 environments

REFERENCE	COATING SYSTEM	DFT	CONTAINS FREE ISOCYANATE (1)	SYSTEM VOC	AESTHETIC DURABILITY (2)	CORROSION RESISTANCE (3)
A	Interlac® 665 or Intergard® 345	@ 3.1 mils (80µm)	No	<40g/m ²	★	★
B	Intergard® 345 (4)	@ 6.3 mils (160µm)	No	<73g/m ²	★	★★
C	Intercure® 99 (5)	@ 6.3 mils (160µm)	Yes	<40g/m ²	★★★★	★★★
D	Intercure® 99 (6)	@ 8 mils (200µm)	Yes	<50g/m ²	★★★★	★★★
E	Intercure® 200HS Interthane® 990 (7)	@ 6 mils (150µm mils) @ 2 mils (50µm)	Yes (6)	<80g/m ²	★★★★ ⁽⁸⁾	★★★
F	Intercure® 200HS Interfine® 878	@ 6 mils (150µm) @ 2 mils (50µm)	No	<60g/m ²	★★★★★	★★★
G	Intercure® 200HS Interfine® 878	@ 8.1 mils (205µm) @ 3 mils (75µm)	No	<85/m ²	★★★★★	★★★★
H	Interzinc® 52 Intergard® 475HS Interthane® 990 (7)	@ 3 mils (75µm) @ 6.1 mils (155µm) @ 2 mils (50µm)	Yes	<112g/m ²	★★★★ ⁽⁸⁾	★★★★
I	Interzinc® 52 Intergard® 475HS Interthane® 990 (7)	@ 3 mils (75µm) @ 8 mils (200µm) @ 2 mils (50µm)	Yes	<126g/m ²	★★★★ ⁽⁸⁾	★★★★★
J	Interzinc® 52 Intergard® 475HS Interfine® 878	@ 3 mils (75µm) @ 8 mils (200µm) @ 2.4 mils (60µm)	No	<100g/m ²	★★★★★	★★★★★

(1) Coatings containing isocyanate have known health and safety issues during application. Many of our products contain no free isocyanate.

(2) Aesthetic durability is a measure of gloss and color retention. These results are based on ISO and ASTM testing carried out in an ISO 9001 certified laboratory.

(3) Corrosion resistance is a measure of the anticorrosive performance. These results are based on ISO and ASTM testing carried out in an ISO 9001 certified laboratory.

(4) Durability (gloss and color retention) when exposed to sunlight can be significantly improved by topcoating this specification with Interthane® 990 @ 2 mils (50µm). In these instances it is possible to reduce the thickness of Intergard® 345 from 6.3 mils (160µm) to 4.5 mils (100 - 125µm).

(5) Fast dry in 1½ hours at 77°F (25°C) Intercure® 99 will reduce (VOC) emissions, improve productivity and increase aesthetic durability compared to Intergard® 345.

(6) Intercure® 99 can be a direct replacement for two coat systems in C3 environments. Fewer coats means improved productivity and Intercure® 99 dries fast in 1½ hours at 77°F (25°C), has excellent aesthetic durability and can reduce the overall VOC emissions of your system.

(7) Interthane® 990 is a high gloss finish - if a semi-gloss finish is required it can be replaced by Interthane® 870 specified at 4 mils (100µm). In this instance the previous coat can be reduced by 2 mils (50µm) in order to achieve the same total dry film thickness (DFT).

(8) As Interfine® 878 contains no free isocyanate, replacing Interthane® 990 with Interfine® 878 will reduce health and safety concerns and will also increase aesthetic durability to 5★.

You can have confidence in our coatings

- Continual investment in state of the art R&D and test facilities
- Testing to industry standards including NACE, ASTM, ISO, NORSOK, NSF and more
- Customized testing to meet specific customer and project needs
- Extensive in-house test data
- Independent testing and approvals
- In-field testing and proof of performance track record

Sustainability

Here at AkzoNobel, we are committed to sustainability and are ranked number one on the influential Dow Jones Sustainability Index (DJSI), demonstrating our commitment to improving our environmental and social performance.

We will work with you to help ensure that your coating specification will meet your overall sustainable design credentials.

Global organization

As your global partner we provide consistent solutions, time and time again.

Designing assets, fabricating and constructing in numerous locations across the world? Combining worldwide manufacturing and local distribution networks with our global product range helps to reduce the complexity in specification and the variance in quality. From us, this means one product, one datasheet regardless of location.

We supply consistent products and consistent service, whenever and wherever you need it. From three global state of the art R&D facilities in the UK, USA and China, we are developing the coatings of tomorrow for your business. Our design and development, marketing, technical and commercial support are accredited to ISO 9001 which means you can have absolute confidence in our products and services.

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