ISO 12944 A global corrosion standard



INDUSTRIAL MIX

EAL



ISO 12944 Paints and Varnishes - corrossion protection of steel structures by protective paint systems

The ISO 12944 (parts 1-8) was published in 1998 as European and International Standard and it is the highest qualified worldwide standard reference for effective corrosion protection of structural steel at new construction.

It covers protective paint systems designed for application to abrasive blasted steel, hot dipped galvanised steel and thermally sprayed zinc steel.

Selecting the suitable coating system that complies with ISO 12944 provides:

- Confidence in the performance of Valspar Industrial Mix products
- An objective approach to coating selection
- A universally accepted standard

Choose the best Valspar Industrial Mix (VIM) system for your project in 3 steps:

- 1. Select the corrosive environment
- 2. Determine the desired life span
- 3. Select the suitable coating system

For the selection of the best suitable coating system, the following important issues should be clarified:

- What is the physical location of the structure? In a rural area, within a city, in an industrial environment, at the shoreline; is the structure fully or partially under water or is it in contact with the ground?
- What are normal/additional stress loads at/for the structure? Industrial gases, high humidity, rain, salt, mechanical stress loads, long-term presence of condensation, etc.
- What is the planned service life for the structure? 5, 10 or 15 years?
- What is the designed appearance of the object? Is the visual impression secondary or are there specific colour requirements?
- Will the item receive regular cleaning and maintenance?

To select the suitable coating system we refer you to the VIM system techniques. These can be found on the website www.valsparindustrialmix.com.



The corrosive environment

Corrosion Category	Application area		Recommended total
	Outdoors	Indoors	dry film thickness
C1 negligible	N/a	Heated rooms, e.g. offices, shops, schools, hotels	80µm
C2 low	Low pollution, mostly rural areas	Unheated buildings where condensation may occur, e.g. storage facilities, sports centres	120-160µm
C3 medium	Urban and industrial areas, moderate pollution, coastal regions with low salt concentration	High humidity rooms with some air pollution, e.g. breweries, dairies, food production facilities	160-200µm
C4 severe	Industrial areas, coastal regions with moderate salt concentration	Chemical plants, swimming pool, boat houses above sea water	200-240µm
C5 - l extreme (industrial)	Industrial areas with high humidity and aggressive atmospheres	Buildings and areas with ever present condensation and heavy pollution	240-320µm
C5 - M extreme (maritime)	Coastal and offshore regions with high salt concentration	Buildings and areas with ever present condensation and heavy pollution	240-320µm

Select the corrosive environment according to the following chart:

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 conditions less than 120°C/248°F.

Expected life span

Use the below chart to determine how long the expexted life span is until the first major maintenance is planned.

Duration of corrosion protection *		
Time frame	Year	
Low L	2 - 5	
Medium M	5 - 15	
High H	>15	

* The durability ranges provide an indication of the expected lifetime of the system before the first major maintance work is required. These durability ranges are a guide only and do not constitute a warranty!

The indicated duration of the protection until first major maintenance depends on the corrosion stress or environmental conditions, respectively, and on the selected coating system. The first partial repair phase for reasons of corrosion is due when the coating system shows rust grade Ri 3 (rust presence of 1% of the surface) according to ISO 4628-3, unless contractual provision dictate specific time periods. The duration of protection does not constitute a warranty period. It is a technical recommendation to assist the ordering party when defining periodic service and maintenance.



Valspar wants to help its customers in making the most suitable selection of paint processes for the job at hand. The right System Technique for the right substrate and environment.

ISO 12944 European and International Standard assists in providing customers with adequate information on specification requirement to protect structures from corrosion during their lifetime. Select the most suitable Valspar Industrial Mix coating System Technique to protect your structure with confidence of all recommended specifications, as having been classified by an Independent International Standard. All the information on the ISO category for each system can be found in the System Techniques and in the TDS.

This information has been prepared in accordance with the latest edition of the International Standard ISO 12944 'Paints and varnishes - Corrosion protection of steel structures by protective paint systems'.

Outlined in this brochure are Valspar's own guidelines and recommendations for the right coating protection for the various corrosive conditions and environments.

This information is to be used in conjunction with Valspar's Industrial Mix System Techniques which can be located at www.valsparindustrialmix.com.

Please note this information is to be considered as a guide only and is non binding.







The Valspar Corporation is one of the largest global coatings manufacturers in the world, providing paint and coatings to a wide variety of customers.

Since 1806, Valspar has been dedicated to bringing customers the latest innovations, finest quality and the best customer service in the coatings industry.

Our head office is located in Minneapolis in the United States. We have over 80 production sites in 25 countries and over 10,000 employees. Valspar is in a truly unique position to supply customers with the coating solution they require. Valspar services a wide variety of market segments including packaging, coil coating, architectural, wood, general industrial and automotive. Whether it's the vibrant red can of soft drink, sturdy reliable green tractors or strong yellow mining machinery - you can be sure that 'If it matters, we're on it'.

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