

1. Scope

To fulfil customer requirements and expectations with respect to engines/engine parts and ensure function and maintenance through manufacturing, transport, storage, and engine in operation time.

These requirements cover the quality requirements for protective coating and colouring of new steel and iron structures using protective paint systems. The requirements overrule specification set up in former "Production descriptions". The requirements include surface preparations, the application of protective coatings, inspection, and documentation.

2. Health and Safety and Environmental Protection

It is the responsibility of the supplier to carry out the work in such a manner that they do not endanger the health and safety of themselves or third parties. Health and safety and environmental protection must comply with the recommendations given in ISO 12944-1:2017 Section 6.

It is expected that suppliers implement a health and safety management system comparable with the requirements of OHSAS 18001.

Suppliers are expected to implement an appropriate environmental management system comparable with the requirements of ISO14001 and are encouraged to gain third party certification.

Materials that is restricted under the provisions of the REACH regulation EC 1907/2006 are not permitted.

3. Quality Management

The Supplier's quality management system must fulfil the requirements given in ISO 9001.

4. Durability of the Painting System

Unless otherwise stated, the durability of the protective paint system for all parts must be medium as described in ISO 12944-1:2017, Section 5.5.

4.1. Environmental conditions

Unless otherwise stated, the protective paint system must be in corrosivity category C3-medium as described in EN ISO 12944-2:2017 section 5.

5. Paint systems.

For information regarding type of paint, colour, and part-specific paint application, refer to DR 1130/11

5.1. Priming

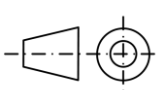

Unless otherwise stated, primer application must comply with the requirements of the specified paint system.

5.2. One component paint (single pack paint)

Unless otherwise stated; the paint system must fulfil the requirements given of ISO 12944-5:2018/System no. C3.02 and C3.03 (Table C2 and C3, Annex C) for corrosivity category C3. (System no C2.02, (Table C2 and C3, Annex C) for corrosivity category C2)

5.3. Two component paint (Two pack paint)

Unless otherwise stated; the paint system must fulfil the requirements given of ISO 12944-5:2018/System no. C3.05 (Table C3, Annex C) corresponding to corrosivity category C3.

Rev. E	Rev. D	Rev. C	Rev. B1	Rev. A4	Issue:	Original		Type:
			JHa	JHa	Sign.:	PHau/ITI		KLS no.: 97
			201222	070919	Date:	19.06.2013		Replaced by:
			MKj Mkj	HS	Check.:	JHa		Replaces:
			ØFB ØFB	KSF	Appr.:	KSF	Ref.:	
						Title: Requirements for protective paint systems. New part production		Drawing no.: DR1128/01 Page 1 of 2

6. Surface preparation

The primary objective of surface preparation is to ensure the removal of deteriorative matter and to achieve a surface that permits the satisfactory adhesion of the priming paint to the metal.

Surface preparations must conform with the standards of ISO 12944-5:2018 Appendix F, Table F1 for the applicable paint system number. For further details regarding surface preparations, refer to ISO 12944-4.

7. Approval of the protective painting system

Prior to the application of protective paint, the supplier must on request prepare and provide for approval by Bergen Engines AS:

- A protective paint system specification in accordance with ISO 12944-8:2017, Table 2.
- A paint work specification in accordance with ISO 12944-8:2017, Table 3.

8. Quality Control

In general, execution and supervision of paint work must comply with ISO 12944-7.

8.1. Paint contractor/applicator Qualifications

All surface treatment work must be carried out by an experienced operator, certified as painter. See also ISO 12944-7 (section 3.1).

8.2. Inspector Qualifications

Inspections requested by Bergen Engines AS must be carried out by a qualified inspector, certified in accordance with NS 476 – Inspection level 3 “FROSIO scheme for surface treatment” or equivalent.

8.3. Inspection and Verification

The inspector must ensure that all mandatory instruments required are available and calibrated. The following inspections must be carried out on all parts:

- Visual control according to ISO 12944-7:2017 7.3
- Additional inspection requirements may apply, please also refer to First Article Inspection (FAI) documentation.

8.4. Inspection and Verification Records

The supplier must have a system for filing inspection records. The supplier must also have a system for tracing the test records for a particular order. Records must be presented to Bergen Engines AS on request.

9. Reference standards

- **ISO 12944-1**; *Paints and varnishes - Corr. Protec. of steel str. by protective paint systems - Part 1: General introduction.*
- **ISO 12944-2**; *Paints and varnishes - Corr. Protec. of steel str. by protective paint systems - Part 2: Classification of environments*
- **ISO 12944-3**; *Paints and varnishes - Corr. Protec. of steel str. by protective paint systems - Part 3: Design considerations*
- **ISO 12944-4**; *Paints and varnishes - Corr. Protec. of steel str. by protective paint systems - Part 4: Types of surface and surface preparation*
- **ISO 12944-5**; *Paints and varnishes - Corr. Protec. of steel str. by protective paint systems - Part 5: Protective paint systems*
- **ISO 12944-6**; *Paints and varnishes - Corr. Protec. of steel str. by protective paint systems - Part 6: Laboratory performance test methods*
- **ISO 12944-7**; *Paints and varnishes - Corr. Protec. of steel str. by protective paint systems - Part 7: Execution and supervision of paint work*
- **ISO 12944-8**; *Paints and varnishes - Corr. Protec. of steel str. by protective paint systems - Part 8: Development of specifications for new work and maintenance*
- **ISO 9001**; *Quality management systems -- Requirements*
- **REACH**; *Registration, Evaluation, Authorisation and Restriction of Chemical substances*
- **NS 476**; *Paints and coatings - Approval and certification of surface treatment inspectors*
- **OHSAS 18001**; *Occupational Health and Safety Zone*
- **ISO 14001**; *Environmental management systems -- Requirements with guidance for use*