GENERAL SPECIFICATION

SPECIFICATION

FOR

PAINTING AND COATING

<table>
<thead>
<tr>
<th>REV</th>
<th>DATE</th>
<th>ORIG.</th>
<th>DESCRIPTION</th>
<th>CHECKED</th>
<th>APPROVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>100504</td>
<td>GvS</td>
<td>Correction Colour Schedule</td>
<td>GvS</td>
<td>CvB</td>
</tr>
<tr>
<td>10</td>
<td>081003</td>
<td>GvS</td>
<td>Update</td>
<td>GvS</td>
<td>CvB</td>
</tr>
<tr>
<td>9</td>
<td>240902</td>
<td>JRO</td>
<td>Change of Layout</td>
<td>JRO</td>
<td>CvB</td>
</tr>
</tbody>
</table>

GDF PRODUCTION NEDERLAND B.V.

<table>
<thead>
<tr>
<th>Specification</th>
<th>Sheet</th>
<th>Revision</th>
</tr>
</thead>
<tbody>
<tr>
<td>525</td>
<td>1 of 21</td>
<td>11</td>
</tr>
</tbody>
</table>
# TABLE OF CONTENTS

1. INTRODUCTION
   1.1 General
   1.2 Exceptions

2. CONTRACTOR'S RESPONSIBILITIES
   2.1 General
   2.2 Quality
   2.3 Safety

3. PLANT AND EQUIPMENT
   3.1 General
   3.2 Blast Cleaning Equipment
   3.3 Application Equipment
   3.4 Earthing and Maintenance of Equipment
   3.5 Protection

4. SURFACE PREPARATION
   4.1 General
   4.2 Abrasives
   4.3 Solvent Cleaning
   4.4 Blast Cleaning of Surfaces
   4.5 Power Tool Cleaning

5. COATING MATERIALS AND METHODS
   5.1 Coating Materials
   5.2 Coating Methods and special Remarks
   5.3 Repair of Defects
   5.4 Clean-up

6. QUALITY ASSURANCE AND QUALITY CONTROL AND TESTING
   6.1 Quality Assurance
   6.2 Quality Control and Testing

7. WARRANTY

8. STANDARDS

9. COATING SYSTEMS FOR NEW CONSTRUCTION PROJECTS AND MAINTENANCE
   9.1 General
APPENDIX A

1. SURFACE PREPARATION SUMMARY

2. OPTION SCHEDULE COATING SYSTEMS FOR NEW CONSTRUCTION AND MAINTENANCE

3. COATING SYSTEMS
   3.1 Coating system 1
   3.2 Coating system 2
   3.3 Coating system 3
   3.4 Coating system 4
   3.5 Coating system 5
   3.6 Coating system 6
   3.7 Coating system 7
   3.8 Coating system 8
   3.9 Coating system 9
   3.10 Coating system 10
   3.11 Coating system 11
   3.12 Coating system 12
   3.13 Coating system 13
   3.14 Coating system 14

4. COLOUR SCHEDULE
   4.1 General

APPENDIX B

1. TABLE FOR DETERMINATION DEW POINT

APPENDIX C

1. DATASHEET SPECIFYING VARIOUS SUPPLIERS FOR NEW CONSTRUCTION
   To be used as a guideline only.

2. DATASHEET SPECIFYING VARIOUS SUPPLIERS FOR MAINTENANCE OFFSHORE
   To be used as a guideline only.

3. Addresses various suppliers.
1.0 INTRODUCTION

1.1 General

This Specification is intended for use by Company, Contractors, Company's Inspectors, Quality Control personnel and Suppliers of paints and equipment. Where coating work is involved this Specification shall be quoted as a whole or in part as part of any contractual document.

This Specification establishes the detailed requirements of Company with respect to materials, surface preparation, application, colour coding, testing methods and inspection to be employed for coating of steel constructions, process facilities, cranes and associated equipment. These requirements should be met during both the new construction and maintenance phase of an installation as long as it is kept in operation. It includes the protection against atmospheric corrosion of both carbon steel, stainless steel and duplex stainless steel components involved in structural steel, production facilities, process equipment, piping, electrical equipment and instrumentation.

This Specification is to be used in order to achieve quality coating work.

This Specification covers all aspects of coating on installations and is intended to be applied in its entirety on new construction projects and painting maintenance works on existing installations. Maintenance systems will not be used on new structures and/or installations.

In cases where this Specification is incomplete, or not fully clear, outside parties shall direct their queries to Company.

The coating brands mentioned in this Specification (Appendix C) are “for information only”, for each application the selected brand and type for that brand shall be submitted for approval to Company. Company will evaluate the brand and type based on specified use and design conditions, but also on practical/actual conditions and further coating-work in the area.

1.2 Exceptions

All painting and coating systems, as well as all Coating material Suppliers and Coating application Contractors for the painting and coating work, must be approved by Company. All painting and coating systems shall be applied in accordance with this Specification. A deviation from this Specification may only be implemented after written acceptance of Company.

2.0 CONTRACTOR'S RESPONSIBILITIES

2.1 General

The contractor is, in addition to his responsibilities under the general conditions of the contract, responsible for all aspects of ensuring and establishing/demonstrating that the quality of the work being performed is in strict accordance with this Specification and all other relevant documents.

2.2 Quality

The Contractor is fully responsible for all Quality Assurance and Quality control. The Contractor shall submit, in detail, proposals for implementing this Specification and demonstrate that this plan provides the Quality assurance and control as required. The obligations of the Contractor in this respect are explained in more detail in Section 6: Quality assurance and Quality control.
2.3 Safety

2.3.1 General

All activities related to on-shore sites are covered by the "ARBO" act while off-shore activities are covered by the Dutch Mining Act, Mining Degree, Mining Regulations and safety rules. All work shall be done strictly in accordance with the applicable acts and regulations.

2.3.2 Responsibility

The Contractor shall be responsible for all aspects of safety related to the painting work to be done.

2.3.3 Safe Handling of Coating Materials

All work shall be done strictly in accordance with the paint supplier's recommended procedures (technical and safety data sheets) for the assurance of personal safety.

2.3.4 Personal Protection

The recommendations for personal protection and for protective equipment as given in the paint manufacturer's data sheets, and/or indicated on the containers, shall be met in full.

Safety precautions shall be clearly described on the technical data sheets of paints and coating material supplied, as well as on the containers. Where this Specification indicates restrictions on the use of certain materials, these limitations shall be strictly adhered to.

2.3.5 Approvals

For any work the necessary approvals must be obtained through Company before blasting or painting work commences.

3.0 PLANT AND EQUIPMENT

3.1 General

Equipment shall be maintained in good condition such that the requirements of this Specification are clearly met. All equipment shall fulfil the requirements in accordance with the applicable acts and regulations.

3.2 Blast Cleaning Equipment

The compressed air supply used for blasting shall be free of water and oil. Adequate separators and traps shall be provided and these shall be kept emptied of water and oil.

Where air operated equipment is used, the operator's hood or head gear shall be ventilated by clean cool air served through a regulator filter to prevent blasting residues from being inhaled.

Blast cleaning equipment shall be protected with a so-called dead-man's handle.

3.3 Application Equipment

The spraying equipment to be used shall meet the recommendations and instructions set forth by the paint supplier for each specific paint or coating system.
3.4 Earthing and Maintenance of Equipment

All mechanical equipment shall be earthed and all necessary precautions shall be taken to prevent the build up of static electricity. Especially blasting equipment, its operators and the equipment being blasted shall be properly earthed to prevent the occurrence of electro-static discharges.

3.5 Protection

It is the Contractor's responsibility to ensure that all equipment, structures, piping, E&I and any other items and areas not being painted are protected from mechanical damage as well as damage caused by grit during grit blasting, paint droppings and over spray.

Special precaution shall be taken to prevent grit from entering equipment and or open pipeline sections by taping and or blinding off before blasting starts.

4.0 SURFACE PREPARATION

4.1 General

Surface preparation shall, as a general rule, be done by dry blast cleaning. Where dry blast cleaning can not be carried out, e.g. due to limited accessibility, environmental conditions, risk of damage to nearby equipment, personnel safety problems, alternative surface preparation methods may be applied after evaluation and written approval by Company.

Before further surface preparation all sharp edges shall be rounded to minimal radius of 1.5 mm. Areas that cannot be reached properly for blast cleaning shall be protected otherwise, i.e. by boxing in with steel plating or alternatively, proposal by Contractor and only after written approval by Company.

Any surface to be coated shall be dry and rendered dust free prior to the application of the first coat.

4.2 Abrasives

The abrasives shall be expendable grit, e.g. aluminium silicate, corund, or re-usable iron and steel grit or shot, the choice being in accordance with the recommendations of this Specification, as specified by the paint supplier or as appropriate for the material, or as otherwise agreed upon. Sand shall not be used. Abrasives containing iron, with the exception of stainless steel shot, shall not be used on or near stainless steel or duplex steel components or surfaces. Abrasives shall be free of oil, grease, moisture, salts, dust, etc. They shall not be contaminated with heavy metals or other matter that would complicate disposal. Abrasives (including re-used) shall be clean and reasonably sharp.

4.3 Solvent Cleaning

Prior to the actual cleaning, any oil, grease or other fatty matter shall be removed by means of the appropriate solvents (for example xylene, toluene, trichloro-ethylene etc.), or the solvents used in the primer, in accordance with SSPC, SP1 "Solvent Cleaning". Petroleum, kerosene, diesel oil, turpentine or other fatty solvents shall not be used.
4.4 Blast Cleaning of Surfaces

4.4.1 General

Blast cleaning shall be such, that, unless otherwise specified, the surface quality just (i.e. max. 10 minutes) before painting is in accordance with ISO 8501-1 standard Sa 2.5.

The type and size of abrasive for any particular job shall be selected to give a surface amplitude in the range of 50-80 microns on average, while a maximum surface amplitude of 100 microns shall not be exceeded. Treated surface shall be reasonably sharp ("scherp kantig profiel"). During the blasting, checks of profile amplitude shall be made at regular intervals.

In general surface preparation shall fulfil as a minimum the requirements as specified by paint manufacturer.

The blasting of stainless steel and duplex steel shall be carried out by sweep blasting using a fine, glass bead peening or corund, so that a mat appearance is achieved.

In maintenance coating projects surface preparation shall always be preceded by a high pressure steam detergent cleaning to remove dirt and salt deposits. If a long time elapses (1 to 3 days depending upon the weather conditions) after the application of one layer of a coating system before work can proceed, the surface shall be steam cleaned before the application of the next layer. All metal surfaces to be coated which do not require blast cleaning or power tool cleaning, e.g. components delivered in primer and sealer, and all galvanised metal shall be thoroughly cleaned with a high pressure cleaning unit to remove all mud, oil, grease and other foreign matter.

For maintenance of hot dip galvanised surfaces the same method of surface preparation shall be applied as for stainless steel. The zinc layer shall not be seriously damaged.

To reduce the risk of unacceptable damage to the substrate while sweep blasting stainless steel or hot dip galvanised surfaces the use of reduced nozzle pressure is recommended.

4.4.2 Techniques and Restrictions

To prevent dust and grit contamination, blast cleaning shall not be done in areas close to painting operations or wet coated surfaces.

Surfaces shall be blasted to the specified visual standard under good light conditions.

Blasted surface shall be free of dust, oil, grease and other foreign matters. If contaminated, surfaces shall be cleaned with solvents, or in the case of salts, by rinsing with water or by steam cleaning. The cleaned surfaces shall subsequently be blasted once more.

Where rectification has been necessary on abrasive blast cleaned surfaces, the dressed areas shall be reblasted to remove all rust and slag, and to provide an adequate paint key.

All welded surfaces and appurtenances shall be given special attention to ensure the removal of welding flux from crevices. Welding spatter, slivers, laminations and underlying mill scale not removed during fabrication and exposed before and during blast cleaning operations shall be removed by the best mechanical means. The edges shall be smoothed or rendered flush.

For effective coating of damaged areas and welds joining parts that have already been coated, surface preparation shall be carried out to the same standard that is required for the whole installation.

Blasting shall continue a minimum of 25 mm into adjacent coated surfaces, and the edges shall be feathered (in accordance with DIN 55928, part 4).
4.5 **Power Tool Cleaning**

Power tool cleaning shall be in accordance with visual standard St 2-3 in accordance with ISO 8501-1.

5.0 **COATING MATERIALS AND METHODS**

5.1 **Coating Materials**

A specific paint product shall only be used if a written permission from Company has been obtained.

**Applicable Paint Products**
- Zinc rich epoxy primer.
- Epoxy primer.
- Alkyl-zinc silicate.
- Epoxy sealer.
- Silicone aluminium paint.
- Epoxy High Solid paint.
- High built aliphatic polyurethane finish.
- Acrylic epoxy finish.
- Mio polyurethane paint.

All coating materials shall be supplied to the work-site in their original unopened and clearly identifiable containers. In a painting project no inter-mixing of different brands or types of paint will be permitted.

The Contractor will be responsible for obtaining from the paint manufacturer or supplier, full technical details of each material and instructions for its application.

Paints or coating materials shall be properly stored in storage areas that are clean, well ventilated, protected from sun and weather and temperature controlled in such a way as to prevent any deterioration of containers and their contents.

Paint which has livered, gelled or otherwise deteriorated during storage shall not be used; however, thixotropic materials which may require stirring to obtain normal consistency will be acceptable. No material shall be used that has been in stock for longer than twelve months after the date of manufacture, or if this is shorter, longer than the shelf life as specified by the manufacturer in his data sheets.

**Environmental Aspects**

In choosing one or more of the afore mentioned paint products, consideration shall be given to it's VOC (Volatile Organic Compounds) contents. In the Dutch project KWS 2000 a paint product is considered a low VOC paint when VOC contents are less than 250 grams per litre, excluding water.

All activities shall be carried out in strict accordance with local rules and legislation regarding pollution prevention for water, soil and air. Also all applicable rules and legislation regarding personal health and safety shall be observed.
5.2 **Coating Method and Special Remarks**

5.2.1 **General**

The following methods can be used for the application of paint:
- airless spray application
- brush application
- roller application may only be used after the written approval of Company.

Only thinners as specified by the paint manufacturer shall be used. Mixing and thinning directions as furnished by the paint manufacturer shall be followed.

The application of paint shall be done strictly in accordance with the directions given by the paint manufacturer. Circumstances shall be checked and recorded by Contractor. No coating shall be applied when the surfaces are less than 3°C above dew point (see Appendix C), when the relative humidity of the air is greater than 90%, when the air temperature is below 5°C, or when there is a likelihood of a change in weather conditions within two hours after application which would result in air temperature below those specified, or in deposition of moisture in form of rain, snow, condensation etc. upon the surface.

Coating layers above 100 mµ shall be applied as 2 layers unless approved otherwise.

To ensure the correct colour at the surface of the complete system, the colour for the (various) layer(s) below the end layer shall be carefully evaluated.

No coating shall be applied to surfaces exceeding 40° at the time of application. Blast cleaned or power disc cleaned surfaces shall be coated with the primer specified within four hours after blasting or power disc cleaning or within such other time limits as may be specified and before any visible rusting occurs.

During drying as well as application the Contractor shall provide for adequate ventilation, especially if the work area is enclosed.

No coating shall be put on edges prepared for field welds or within 10 cm within these edges.

5.2.2 **Spray Application**

Each coat is to be applied uniformly and completely over the entire surface. All runs and sags shall be brushed out immediately, or the paint shall be removed and the surface resprayed. Before spraying each coat, all areas such as corners, edges, welds, small brackets and interstices shall be precoated, usually by brush, to ensure that these areas have at least the minimum specified thickness. For edges however, pre-spraying may also be used since this may be more effective in obtaining the required result.

5.2.3 **Brush Application**

Brush application may, provided manufacturer considers the coating material suitable for brush application, be used under the following circumstances:
- For “touch-up” or repairs to locally damaged areas or areas of incorrectly applied paint.
- For application of the initial coat of paint to corners, edges, crevices, holes, welds or other irregular surfaces.

Brushes used in brush application shall be of a style and quality that will permit proper application of paint. Good quality hog bristle is preferred. Rollers should be manufactured from good quality “carpet pile” or lamb's wool and shall be subject to the specific approval of Company.
5.2.4 **Coating of Hot-dip-galvanised Steel**

Hot dip galvanised steel in new construction (piping, hand-railing, grating, cage-ladders, parts of skids) and Cunifer (piping) need not to be coated unless stated or agreed otherwise.

5.2.5 **Coating of Stainless Steels**

Coating of SS (stainless steel such as 316, 316L, high nickel alloys, etc.) or SS parts (piping, pump casings, etc.), shall be per system indicated for duplex steel.

SS flanges on cladded CS equipment and vessels shall be coated per the SS coating system. The coating system for the CS exterior of cladded vessels shall be as per the DS/SS system with end colour 5015 (regular end colour DS system).

5.2.6 **Coating of Flanges/Flange Facings**

At all times ensure no blasting material enters the piping system or equipment.

Any blasting material inside piping or equipment shall be removed before continuation of the work. All piping and equipment shall be checked for this after blasting and after complete coating.

Complete flange-facings shall be blasted (SA 2 ½, ring-grooves light cleaning blast) and coated in first layer at correct layer thickness. Thereafter facing (inside ring-groove including ring groove if RTJ) shall be taped off, remainder (facing outside ring groove, facing part at bolthole area) shall be coated in full system.

Attention is further required for proper blasting and coating at correct layer thickness inside boltholes.

5.2.7 **Coating of Subsea (pipeline) Spools**

Subsea spools that will be installed on the seabed shall be coated in addition to the regular coating system (material dependant) with a 12 mm neoprene coating/layer to protect the spools and coating to the impact of rockdump.

5.2.8 **Coating Studs and Nuts and Special Structural Areas**

For material and coating of studs and nuts for piping systems see General Specification 503.

For material and coating of studs and nuts for structural see General Specification 201.

For coating of heavy loadbearing accurately prepared surfaces reference is made to the drawings of such parts.

For padeyes that require repeated NDT-testing, reference is made to the drawings and regulation for such areas.

In case of doubt consult Company.

5.2.9 **Coating at Field Welds**

Finished welds in general shall be coated with the surrounding steel, unless for other reasons (i.e. pressure test) otherwise required. For field welds (in piping, structure or otherwise) the steel next to the weld shall be blasted to the required surface condition and the first layer of the coating system shall be applied with the application of the coating on the adjacent steel. After the completion and satisfactory inspection of the field weld the damaged coating shall be removed, the surface shall be prepared to the applicable requirements and the complete coating system from the surrounding steel shall be applied.
5.3 **Repair of Defects**

5.3.1 **General**

Before application of any coat of material, all damage to previous coats shall be repaired. Coating of new works shall be based on “Coating Systems New Construction”. No “Coating Systems Maintenance Offshore” shall be used on new work without written approval of Company.

5.3.2 **Inadequate Coating Thickness**

Areas with inadequate coating thickness shall be thoroughly cleaned and, if necessary, abraded and additional compatible coats applied until they meet this Specification. These additional coats shall blend in with the final coating on adjoining areas.

5.3.3 **Contaminated Surfaces**

Surfaces to be over-coated which have become contaminated shall be cleaned as outlined in paragraph 4.3. The whole of the surface to be painted shall then be scrubbed with a neutral solution, followed by copious rinsing with fresh, clean, potable water.

5.3.4 **Coating Damage**

The damaged area shall first be cleaned with a neutral solution to remove all contamination, then rinsed copiously using fresh, clean, potable water, and finally allowed to dry. After the right preparation the full coating system shall then be applied strictly in accordance with this Specification. If the coating damage affects all coating layers, all coating shall be removed, surface shall be prepared to original requirements for subject system (for new building Sa 2.5), and coating shall be built-up to original required system. Care shall be taken to ensure a good transition to the surrounding undamaged coated areas.

5.4 **Clean-up**

After painting and inspection have been completed, all plant, equipment, surplus material and waste, resulting from painting work, shall be collected and disposed outside the work area. Overruns, droppings and smears shall be removed. Any tape used to tape-off areas not to be coated shall be removed.

6.0 **QUALITY ASSURANCE AND QUALITY CONTROL AND TESTING**

6.1 **Quality Assurance**

6.1.1 **Quality Plan**

Before commencing any work, a written quality plan shall be submitted to Company for approval. This plan shall include:
- A detailed and accurate timetable for the various surface preparation and painting activities in relation to the total work to be done.
- A description of the paints (also indicating pot life) and materials to be used (see paragraph 5.1).
- Full details of the blasting and painting facilities and resources including where appropriate, dehydration, temperature, and any other environmental control measures, available space, methods of access and of handling.
- Details of inspection equipment and methods used to ensure the proper calibration and functioning of such equipment at the time of testing and inspection.
- Detailed procedures for testing and inspection.
- The Contractor shall be responsible for arranging his painting schedule in such a manner as to minimise the risk of damage to paint coatings during subsequent lifting on transportation operations and assembly.
- In addition to equipment and manpower lists the Contractor shall submit daily reports giving details of weather conditions, air humidity, air and metal temperature, particulars of application, wet and dry film thickness, anomalies, and progress of work versus approved programme.

6.2 Quality Control and Testing

6.2.1 General

The Contractor is responsible for the Quality Control activities required by this Specification and laid down in the Inspection part of the agreed Quality Plan.

All quality control tests may be witnessed by the Company representative. This includes calibration of instruments, and checks on the environmental conditions.

The Company representative shall have the right to inspect, at all times, any of the surface preparation and coating activities. All parts of the work shall be accessible for this purpose.

The Contractor shall provide and use the equipment necessary for accurately measuring wet and dry film thickness, detecting holidays and checking the adequacy of coating adhesion.

6.2.2 Rejected Work and Equipment

The Company representative shall have the right to condemn any tools, materials, testing equipment, staging and scaffolding, personal protection and equipment protection devices, and environmental control equipment, which do not meet to the requirements of this Specification or normal standards.

The Company representative shall have the right to condemn any surface preparation or applied coating system or partly applied coating system that does not meet the requirements of this Specification. Condemned coating application shall be marked in areas with a compatible paint of contrasting colour. Any condemned equipment, surface preparation or coating application shall be replaced or corrected to a level in accordance with this Specification, at the Contractor's cost.

6.2.3 Methods of Testing

6.2.3.1 Inspection of Prepared Surfaces

The visual standard shall be assessed by means of photograph examples shown in the ISO-standard 8501-1.

Profile amplitude shall be measured by direct, e.g. microscopic, assessment replicas taken from the surface, or by other direct methods, provided that they are included in the approved quality plan. For field measurements, replica tape and a portable micrometer may be applied. Where other methods of on-site determination of profile amplitude are used, the instruments concerned shall be calibrated.
6.2.3.2 Inspection of Coated Surfaces

Measurement of Wet and Dry Coating Firm Thickness

The wet film thickness shall be measured with a wet film thickness gauge (comb). The dry film electro-magnetic type thickness gauges are preferred and shall be calibrated by the Contractor using folios in the film thickness range being checked and over the type of surface being coated. Calibration shall be carried out regularly. The dry film thickness shall be checked as often as is required to cover all orientations of the construction being coated.

Holiday Detection

100% holiday detection is required for all internal tank and vessel coatings. For electrically non-conductive coatings this shall be done by high voltage spark testing and shall be in accordance with the requirements and the coating manufacturer's recommendations. The voltage to be applied shall be specified for the coating by the paint Supplier.

Adhesion Testing

Adhesion testing shall be done in consultation with the Company representative using one of the following methods:
- X-cut test ASTM D3359 - > 35- micrometer
- Cross-cut test in accordance with NEN 5337 - up to 250 micrometer
- Pull-off test in accordance with ISO 4624 1978.

The quality of adhesion between the coating system and the steel substrate, and of the adhesion between the coating layers, shall meet the following standards: Class 0 or 1 - test in accordance with ISO2409. Minimum pull-off force: 3 N/mm² - test in accordance with ISO 4624.

7.0 WARRANTY

Contractors, undertaking coating work, for both new construction and maintenance, to be carried out in accordance with this Specification, will be asked to guarantee the quality of their work.

8.0 STANDARDS

It shall be checked before using standards that they are the latest editions.

NEN-EN-ISO 4628-1 Paints and varnishes - Evaluation of degradation of paint coatings - Designation of intensity, quantity and size of common types of defect - Part 1: General principles and rating schemes.

NEN-EN-ISO 4628-2 Paints and varnishes - Evaluation of degradation of paint coatings - Designation of intensity, quantity and size of common types of defect - Part 2: Designation of degree of blistering.

NEN-EN-ISO 4628-3 Paints and varnishes - Evaluation of degradation of paint coatings - Designation of intensity, quantity and size of common types of defect - Part 3: Designation of degree of rusting.

NEN-EN-ISO 4628-4 Paints and varnishes - Evaluation of degradation of paint coatings - Designation of intensity, quantity and size of common types of defect - Part 4: Designation of degree of cracking.
9.0 COATING SYSTEMS FOR NEW CONSTRUCTION PROJECTS AND MAINTENANCE

9.1 General

Only the coating systems specified in the option schedule shall be applied. Coating systems have been specified for each field of application, or per item. The various layers of coats have been listed in the required sequence of application. Consecutive layers of paint shall be of different colours.

The "selection of paint-system per option schedule coating systems" table in appendix A indicates temperature limits for the various systems. Please note that the selection of the correct system does not necessarily mean the use of the maximum design temperature.

In some cases the operating temperature shall be used.

For all "high temperature systems" the final choice has to be made in consultation with Company.

The coating products prescribed in this Specification have been selected to be compatible with one another. However, coating materials shall normally be overcoated only with products made by the same manufacturer. Exceptions to this rule are to be established in consultation with paint supplier and Company.

Basis of the selection of a coating system and its individual layers for an application under this Specification are the coating systems mentioned under Appendix A section 3. Proposed coating system shall be submitted to Company for approval.

The coating systems per coating brand shown in Appendix C are to be considered a guideline only, proposed coating brand and individual products shall be submitted to Company for approval for each individual project. This is required to obtain control over compatibility throughout the project.

NEN-EN-ISO 4628-5 Paints and varnishes - Evaluation of degradation of paint coatings - designation of intensity, quantity and size of common types of defect - Part 5: Designation of degree of flaking.

NEN-EN-ISO 4628-6 Paints and varnishes - Evaluation of degradation of paint coatings - Designation of intensity, quantity and size of common types of defect - Part 6: Designation of degree of chalking.

NEN-EN-ISO 8501-1 Preparation of steel surfaces before applying paints and coatings - Visual assessment of the degree of surface cleanliness - Degree of rusting and degree of surface cleanliness of uncoated steel and of steel stripped from earlier top coats.

NEN-EN-ISO 8501-3 Preparation of steel surfaces before applying paints and coatings - Visual assessment of degree of surface cleanliness - Degree of cleanliness of painted steel surfaces stripped partly of their paint coat.

ISO 12944-1 through 8 Corrosion Protection of Steel Structures by Protective Paint Systems.

ISO/DLS 20340 Performance requirements for protective paint systems for offshore and related structures.


NEN-EN-ISO 4624 Pull-off test

SSPC, SPI Solvent cleaning.
APPENDIX A

1. SURFACE PREPARATION SUMMARY

Surface cleaning to remove oil and grease.
Dry blast cleaning with grit to Sa 2.5, surface amplitude 50-80 μm, sharp profile.
Surface preparation following paint manufacturer's recommendations.

2. OPTION SCHEDULE COATING SYSTEMS

<table>
<thead>
<tr>
<th>Application</th>
<th>Coating System</th>
<th>Coating System Maintenance</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature max. 120°C, equipment, piping, ladders, construction etc.</td>
<td>1</td>
<td>10</td>
<td>During maintenance blasting shall be carried out (see 4.4.1) Check if minimum curing temperature for coating is actually reached.</td>
</tr>
<tr>
<td>Equipment, piping, etc., temperature from 120°C to 200°C not insulated or insulated</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Equipment, piping, etc., temperature from 200°C to 400°C not insulated or insulated</td>
<td>3</td>
<td>3</td>
<td>During maintenance blasting shall be carried out (see 4.4.1) Check if minimum curing temperature for coating is actually reached.</td>
</tr>
<tr>
<td>Decks upperside, including insides kickbars, drain gutters, penetrations, etc.</td>
<td>4</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Stainless- and duplex stainless steel temperature max. 120°C (and X-mas trees, white)</td>
<td>5</td>
<td>5</td>
<td>Do not apply paint containing Zinc (see 4.4.1 par. 4)</td>
</tr>
<tr>
<td>Stainless and duplex stainless steel temperature 120 - 200°C</td>
<td>6</td>
<td>6</td>
<td>Do not apply paint containing Zinc (see 4.4.1 par. 4) Check if minimum curing temperature for coating is actually reached.</td>
</tr>
<tr>
<td>Jacket</td>
<td>7</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Railings, cage ladders, gratings</td>
<td>Hot dip galv. NEN-EN-ISO1461</td>
<td>13</td>
<td>Minimum layer 70 μm</td>
</tr>
<tr>
<td>Electric motors</td>
<td>8</td>
<td>(8)</td>
<td></td>
</tr>
<tr>
<td>Potable water tanks</td>
<td>9</td>
<td>9</td>
<td>KIWA approved</td>
</tr>
<tr>
<td>Heli decks</td>
<td>14</td>
<td>14</td>
<td>For colours/marking see drawings</td>
</tr>
</tbody>
</table>
3.0 COATING SYSTEMS

3.1 Coating system 1
Zinc rich primer 65 - 85
High solid epoxy coating 150 - 200
Top coat 40 - 60
Minimum dft. 300

3.2 Coating system 2
Zinc rich primer 65 - 85
Medium solid epoxy coating 130 - 180
Top coat 30 - 50
Minimum dft. 275

3.3 Coating system 3
Zinc silicate 65 - 85
Silicone based aluminium 20 - 30
Minimum dft. 100

3.4 Coating system 4
Zinc rich primer 65 - 85
High solid epoxy coating 125 - 175
High solid epoxy top coat 125 - 175
Minimum dft. 375

3.5 Coating system 5
Epoxy primer 40 - 60
Epoxy sealer 70 - 90
Top coat 40 - 60
Minimum dft. 180

3.6 Coating system 6
MIO epoxy 65 - 85
MIO epoxy 65 - 85
MIO epoxy 65 - 85
Minimum dft. 225

3.7 Coating system 7A
Zinc rich primer 65 - 85
High solid epoxy coating 125 - 175
High solid epoxy coating 175 - 225
Minimum dft. 425

Coating system 7B
Epoxy primer 50 - 75
High solid epoxy coating 125 - 175
High solid epoxy coating 175 - 225
Minimum dft. 415

3.8 Coating system 8
Zinc rich primer (heat resistant to 200°C) 40 - 60
MIO polyurethane (heat resistant to 200°C) 60 - 80
MIO polyurethane (heat resistant to 200°C) 65 - 85
Minimum dft. 200
3.9 **Coating system 9**
Epoxy primer } 40 - 60
Epoxy coating solvent free } KIWA approved 300 - 500
Minimum dft. } 450

3.10 **Coating system 10**
Epoxy primer 65 - 85
High solid epoxy coating 125 - 175
Epoxy acrylic top coat 40 - 60
Minimum dft. 275

3.11 **Coating system 11**
Epoxy primer 65 - 85
High solid epoxy coating 125 - 175
High solid epoxy top coat 125 - 175
Minimum dft. 375

3.12 **Coating system 12**
Epoxy primer 40 - 60
High solid epoxy coating 125 - 175
High solid epoxy coating 125 - 175
Minimum dft. 350

3.13 **Coating system 13**
Zinc rich primer 70 - 70
Minimum dft. 70

3.14 **Coating system 14**
Zinc rich primer 65 - 85
High solid epoxy coating 125 - 175
High solid epoxy coating + non-skid additive 4 mm 125 - 175
High solid epoxy coating 125 - 175
High solid epoxy coating (end colour HD) 125 - 175
Minimum dft. (excl. additive) 550
Markings High solid epoxy coating

4.0 **COLOUR SCHEDULE**

4.1 **General**
- Construction general RAL 1028
- Piping RAL 1028
- Equipment general RAL 1028
- Fire equipment RAL 3000
- Decks, upper side RAL 7035
- Stainless steel RAL 5024
- Duplex steel RAL 5015
- HD & Markings HD See drawings
- Trip-hazard and obstructions HD RAL 3000/RAL 9003
## APPENDIX B

### 1. TABLE FOR DETERMINATION DEW POINT

<table>
<thead>
<tr>
<th>Air Temp. °C</th>
<th>Dew Point in °C by a relative humidity of:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>50 %</td>
</tr>
<tr>
<td>5</td>
<td>-4.1</td>
</tr>
<tr>
<td>6</td>
<td>-3.2</td>
</tr>
<tr>
<td>7</td>
<td>-2.4</td>
</tr>
<tr>
<td>8</td>
<td>-1.6</td>
</tr>
<tr>
<td>9</td>
<td>-0.8</td>
</tr>
<tr>
<td>10</td>
<td>0.0</td>
</tr>
<tr>
<td>11</td>
<td>1.0</td>
</tr>
<tr>
<td>12</td>
<td>1.9</td>
</tr>
<tr>
<td>13</td>
<td>2.8</td>
</tr>
<tr>
<td>14</td>
<td>3.7</td>
</tr>
<tr>
<td>15</td>
<td>4.7</td>
</tr>
<tr>
<td>16</td>
<td>5.6</td>
</tr>
<tr>
<td>17</td>
<td>6.5</td>
</tr>
<tr>
<td>18</td>
<td>7.5</td>
</tr>
<tr>
<td>19</td>
<td>8.3</td>
</tr>
<tr>
<td>20</td>
<td>9.3</td>
</tr>
<tr>
<td>21</td>
<td>10.2</td>
</tr>
<tr>
<td>22</td>
<td>11.1</td>
</tr>
<tr>
<td>23</td>
<td>12.0</td>
</tr>
<tr>
<td>24</td>
<td>12.9</td>
</tr>
<tr>
<td>25</td>
<td>13.8</td>
</tr>
<tr>
<td>26</td>
<td>14.8</td>
</tr>
<tr>
<td>27</td>
<td>15.7</td>
</tr>
<tr>
<td>28</td>
<td>16.6</td>
</tr>
<tr>
<td>29</td>
<td>17.5</td>
</tr>
<tr>
<td>30</td>
<td>18.4</td>
</tr>
<tr>
<td>------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Structures</td>
<td>1 Sa 2 1/0</td>
</tr>
<tr>
<td>CS piping, etc.</td>
<td>2 Sa 3/4</td>
</tr>
<tr>
<td>T &lt; 120 °C</td>
<td>3 Top coat</td>
</tr>
<tr>
<td>Insulated or not insulated</td>
<td>Total DFT 300 345</td>
</tr>
<tr>
<td>CS equipment and piping</td>
<td>2 Sa 3/4</td>
</tr>
<tr>
<td>120°C &lt; T &lt; 200°C</td>
<td>3 Top coat</td>
</tr>
<tr>
<td>Total DFT 275 315</td>
<td></td>
</tr>
<tr>
<td>Insulated or not insulated</td>
<td>Total DFT 100 115</td>
</tr>
<tr>
<td>E⊉&lt;t&lt;400°C</td>
<td>3 Zinc silicate</td>
</tr>
<tr>
<td>Total DFT 225 250</td>
<td></td>
</tr>
<tr>
<td>120°C &lt; T &lt; 200°C</td>
<td>3 Medium solid epoxy coating</td>
</tr>
<tr>
<td>Total DFT 180 210</td>
<td></td>
</tr>
<tr>
<td>DS &amp; DS equipment and piping</td>
<td>5 Sa 2 1/0</td>
</tr>
<tr>
<td>120°C &lt; T &lt; 200°C</td>
<td>3 Epoxy primer</td>
</tr>
<tr>
<td>Total DFT 275 345</td>
<td></td>
</tr>
<tr>
<td>DS = duplex steel</td>
<td>6 Sa 2 1/0</td>
</tr>
<tr>
<td>120°C &lt; T &lt; 200°C</td>
<td>3 MIO epoxy</td>
</tr>
<tr>
<td>Total DFT 180 210</td>
<td></td>
</tr>
<tr>
<td>Underwater structures</td>
<td>7 Sa 2 1/0</td>
</tr>
<tr>
<td>Underwater structures</td>
<td>78 Sa 2 1/0</td>
</tr>
<tr>
<td>90 / 9017 / 9024</td>
<td>2 High solid epoxy coating</td>
</tr>
<tr>
<td>Total DFT 425 480</td>
<td></td>
</tr>
<tr>
<td>Bodecks, upperside</td>
<td>14 Sa 2 1/0</td>
</tr>
<tr>
<td>Markings and colour per drawings and rules</td>
<td>2 Sa 1/0</td>
</tr>
<tr>
<td>Total DFT 450 575</td>
<td></td>
</tr>
</tbody>
</table>
## APPENDIX C2.

**DATASHEET SPECIFYING VARIOUS SUPPLIERS FOR MAINTENANCE OFFSHORE**  
*(To be used as a guideline only)*

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Structures, CS equipment</strong></td>
<td>10</td>
<td>Sa 2 1/2</td>
<td>Epoxy primer</td>
<td>65</td>
<td>85</td>
<td>1028</td>
<td>Ameron: color high solids epoxy</td>
<td>400</td>
<td>385</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>High solid epoxy coating</td>
<td>125</td>
<td>175</td>
<td></td>
<td>Amercoat HS epoxy coat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T &lt; 120 °C</td>
<td></td>
<td></td>
<td>Epoxy acrylic top coat</td>
<td>46</td>
<td>60</td>
<td></td>
<td>Amercoat aliphatic pu finish</td>
<td>350</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total DFT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>275</td>
<td>320</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CS piping, etc.</strong></td>
<td>1</td>
<td>Sa 2 1/2</td>
<td>Zinc rich primer</td>
<td>65</td>
<td>85</td>
<td>1028</td>
<td>Amercoat anorganic zinc silicate</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Medium solid epoxy coating</td>
<td>130</td>
<td>180</td>
<td></td>
<td>Amercoat sl. Acrate</td>
<td></td>
<td>891</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>120°C &lt; T &lt; 200°C</td>
<td></td>
<td></td>
<td>Top coat</td>
<td>30</td>
<td>50</td>
<td></td>
<td>Amercoat sl. Acrate</td>
<td></td>
<td>891</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total DFT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>275</td>
<td>320</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Insulated or not insulated</strong></td>
<td>3</td>
<td>Sa 2 1/2</td>
<td>Zinc silicate</td>
<td>65</td>
<td>85</td>
<td></td>
<td>Amercoat anorganic zinc silicate</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Silicone based aluminium</td>
<td>20</td>
<td>30</td>
<td></td>
<td>Amercoat heat resist. silicone aluminium</td>
<td>878</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>200°C &lt; T &lt; 400°C</td>
<td></td>
<td></td>
<td>Total DFT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100</td>
<td>115</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Check if min curing temp is reached)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Deck uppersides</strong></td>
<td>11</td>
<td>Sa 2 1/2</td>
<td>Epoxy primer</td>
<td>65</td>
<td>85</td>
<td>7035</td>
<td>Ameron: color high solids epoxy</td>
<td>400</td>
<td>385</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>High solid epoxy coating</td>
<td>125</td>
<td>175</td>
<td></td>
<td>Amercoat HS epoxy coat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(No anti-slip additive)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>High solid epoxy coating</td>
<td>125</td>
<td>175</td>
<td></td>
<td>Amercoat HS epoxy coat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total DFT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>375</td>
<td>435</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BS &amp; DS equipment and piping</strong></td>
<td>5</td>
<td>Sa 2 1/2</td>
<td>Epoxy primer</td>
<td>46</td>
<td>60</td>
<td>5594</td>
<td>Amercoat epoxy primer</td>
<td>717C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Epoxy sealer</td>
<td>70</td>
<td>90</td>
<td></td>
<td>Amercoat HS epoxy</td>
<td></td>
<td>235</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BS = Stainless steel, DS = duplex steel</td>
<td></td>
<td>In. med</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Top coat</td>
<td>40</td>
<td>60</td>
<td></td>
<td>Amercoat HS epoxy (or 440 or PSX)</td>
<td>450</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T &lt; 120 °C</td>
<td></td>
<td></td>
<td>Total DFT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>180</td>
<td>210</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CS equipment and piping</strong></td>
<td>6</td>
<td>Sa 2 1/2</td>
<td>MIO epoxy</td>
<td>65</td>
<td>85</td>
<td>5015</td>
<td>Ameron: color high solids epoxy</td>
<td>400</td>
<td>385</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MIO epoxy</td>
<td>65</td>
<td>85</td>
<td></td>
<td>Amercoat HS epoxy coat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total DFT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>225</td>
<td>250</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Underwater / splashzone</strong></td>
<td>12</td>
<td>Sa 2 1/2</td>
<td>Epoxy primer</td>
<td>65</td>
<td>85</td>
<td>9017 / 9016 / 9015 / 7035</td>
<td>Amercoat HS epoxy</td>
<td>400</td>
<td>385</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>High solid epoxy coating</td>
<td>125</td>
<td>175</td>
<td></td>
<td>Amercoat HS epoxy coat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total DFT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>350</td>
<td>400</td>
<td>9002</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Structures, CS equipment</strong></td>
<td>10</td>
<td>Torbo sys</td>
<td>Epoxy primer</td>
<td>70</td>
<td>90</td>
<td>1028</td>
<td>Amercoat HS epoxy</td>
<td>235</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Epoxy sealer</td>
<td>70</td>
<td>90</td>
<td></td>
<td>Amercoat HS epoxy</td>
<td></td>
<td>235</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T &lt; 120 °C</td>
<td></td>
<td></td>
<td>Epoxy acrilic topcoat</td>
<td>46</td>
<td>60</td>
<td></td>
<td>Amercoat HS epoxy (or 440 or PSX)</td>
<td>450</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total DFT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>200</td>
<td>250</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Heideck, upperside</strong></td>
<td>14</td>
<td>Sa 2 1/2</td>
<td>Zinc rich primer</td>
<td>65</td>
<td>85</td>
<td>1028</td>
<td>Amercoat zincprimer</td>
<td>302</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Epoxy sealer</td>
<td>22</td>
<td>2x</td>
<td></td>
<td>Amercoat Zinc (Z)</td>
<td></td>
<td>400C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Non slip additive 4mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>High solid epoxy coating</td>
<td>125</td>
<td>175</td>
<td></td>
<td>Amercoat</td>
<td></td>
<td>400C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total DFT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>450</td>
<td>575</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

GOF Production Nederland B.V.  
Specification 525, Rev. 11  
20 of 21
### APPENDIX C3. Addresses various suppliers

<table>
<thead>
<tr>
<th>Supplier</th>
<th>Address</th>
<th>Telephone</th>
<th>E-mail</th>
<th>Web-page with productsheets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ameron b.v.</td>
<td>J. F. Kennedylaan 7 4149 MZ Geldermalsen</td>
<td>0345 587500</td>
<td><a href="mailto:benelux@ameron-bv.com">benelux@ameron-bv.com</a></td>
<td><a href="http://www.ameron-bv.com">www.ameron-bv.com</a></td>
</tr>
<tr>
<td>Hempel Coatings b.v.</td>
<td>J. Wattweg 2 3133 KK Vlaardingen</td>
<td>010 4454000</td>
<td><a href="mailto:Info@nl.hempel.com">Info@nl.hempel.com</a></td>
<td><a href="http://www.hempel.com">www.hempel.com</a></td>
</tr>
<tr>
<td>International Paint b.v.</td>
<td>Kleidijk 88 3161 HJ Rhoon</td>
<td>010 5033959</td>
<td><a href="mailto:Ip-Pc-Benelux@uk.akzonobel.com">Ip-Pc-Benelux@uk.akzonobel.com</a></td>
<td><a href="http://www.international-pc.com">www.international-pc.com</a></td>
</tr>
<tr>
<td>Jotun Prot. Coatings b.v.</td>
<td>Newtonweg 17a 3208 KD Spijkenisse</td>
<td>0181 678300</td>
<td><a href="mailto:Info.nl@jotun.com">Info.nl@jotun.com</a></td>
<td><a href="http://www.jotun.com">www.jotun.com</a></td>
</tr>
<tr>
<td>Sigma Coatings b.v.</td>
<td>Parmentierplein 13 3088 GN Rotterdam</td>
<td>010 2943333</td>
<td><a href="mailto:sigma.protectivecoatings@sigmakalon.com">sigma.protectivecoatings@sigmakalon.com</a></td>
<td><a href="http://www.sigmacoatings.com">www.sigmacoatings.com</a></td>
</tr>
<tr>
<td>Zandleven Coatings b.v.</td>
<td>Postbus 131 8900 AC Leeuwarden</td>
<td>058 2129545</td>
<td><a href="mailto:Info@zandleven.com">Info@zandleven.com</a></td>
<td><a href="http://www.zandleven.com">www.zandleven.com</a></td>
</tr>
</tbody>
</table>