



# DET NORSKE VERITAS

## QS CERTIFICATE OF ASSESSMENT-EC

*Application of the Council Directive 97/23/EC of 29 May 1997 on Pressure Equipment,  
as amended.*

**CERTIFICATE NO. PED-H-142**

This Certificate consists of front page + Appendixes

*This is to certify that the quality system of*

**Aeroflex Industries Limited**  
**MUMBAI 400 027, INDIA**

*for manufacture and testing of*

**Pressure Accessory**  
**Stainless Steel Corrugated Flexible Hose Assembly**

*as specified in the Appendix I to this certificate, is found to comply with the requirements of  
the Pressure Equipment Directive*

The Manufacturers Quality System for the equipment has been assessed with respect to the  
procedure of conformity assessment as described in Module D, in the Directive

*Further details of the product and conditions for the certification are given overleaf.*

*Place and date*

Høvik, 01-04-2009

for DET NORSKE VERITAS AS

Marianne Spæren

Head of Section, ZNWN0416



Notified Body No.:

**0575**

Local Office

DNV Pune

*This Certificate is valid until*

01-04-2012

Hans Dyrdal Rasmussen

Principal Engineer

*Notice: The certificate is subject to terms and condition, if any, overleaf. Any significant changes in design or construction of the product, the quality system or amendments to the Directive or Standards referenced above may render this certificate invalid. The product liability rests with the manufacturer or his representative in accordance with the Council Directive, as amended.*

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



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## APPENDIX 1, REV. NO. 0

### SCOPE AND CONDITIONS

#### Products covered by this certificate

DNV has carried out the QS assessment of the Manufacturer's quality system to verify that the relevant requirements relating to the following ranges of flexible hoses have been implemented.

#### Product description:

Equipment category according to PED : I , II and III  
Media according to PED : Liquid and gases, fluid group 1 and 2  
Design Standard : EN ISO 10380 & BS 6501 Part 1

#### Range of hoses:

Nominal Size ND <sup>1) 2)</sup>	Max. pressure in bar g <sup>3)</sup>		DNV QS Assessment Report dated
	Single Braided Hoses	Double Braid Hoses	
32	40	64	Report dated 18-02-2009 issued by DNV Pune
40	30	48	
50	28	44	
65	24	38	
80	18	28	
100	16	26	
125	12	20	
150	10	16	
200	8	12	

- 1) Flexible hoses smaller than the ranges listed in this table are covered by PED Article 3 Paragraph 3 and shall not be CE-marked.
- 2) This certificate is covering Type B and C Corrugated Flexible Hoses according to BS 6501 Part 1.
- 3) Maximum pressure given in this table applies for ambient temperature. For temperature limitations and temperature de-ratings ref. Table 3 & A-2 in EN ISO 10380 and Table 4 in BS 6501 Part 1.

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### Facilities for manufacturer of main Pressure Retaining Parts and assembling of Pressure Accessories

The listed Facilities are subject to surveillance from DNV as required by PED Annex III, Module H, section 4

Aeroflex Industries Limited	Plot No. 43, MIDC Talaja Industrial Area, District Raighad, Navi Mumbai – 410 208, Maharashtra, India
Aeroflex Industries Limited	Plot No. L-34, MIDC Talaja Industrial Area, District Raighad, Navi Mumbai – 410 208, Maharashtra, India

#### Conditions

1. The system approval is only valid for the equipment listed above covered by an EC Design Examination Certificate or an EC Type Examination Certificate. For other equipment, an application for extension of the certificate must be sent to the local DNV Office.
2. The local DNV Office must be informed of any sub suppliers for main pressure retaining parts.
3. The manufacturer shall inform the local DNV office of the intended schedule of production for equipment to Category III and IV.
4. Periodical audits and unexpected visits will be held, in order to verify that the Manufacturer duly fulfils the obligations arising out of the approved quality system.
5. The Manufacturer must give information of any intended adjustments of the Quality System to DET NORSKE VERITAS, who will assess the changes and decide if the certificate remains valid.
6. When required by Annex I Section 4.2 of the Pressure Equipment Directive, "Particular Material Appraisal" for equipment of category III must be given by DET NORSKE VERITAS AS.

The manufacturer complies with the Council Directive 97/23/EC on Pressure Equipment and is allowed to affix the CE Mark followed by the DNV identification number 0575.

*Place and date*  
Høyik, 01-04-2009  
  
Hans Dydal Rasmussen  
Principal Engineer



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## APPENDIX 2, REV. NO. 0

### PARTICULAR MATERIAL APPRAISAL FOR PRESSURIZED PARTS

The materials listed below have been subject to Particular Material Appraisal as required by PED annex 1 sec. 4.2b. This Particular Material Appraisal covers materials for components to equipment described in annex 1 to this certificate.

#### 1. Steel Pipes

Sl.No	Material Standard	Material Grade	Issue Date	Revision
1	ASTM A312	304	2009-03-18	0
2	ASTM A312	316	2009-03-18	0
3	ASTM A312	316L	2009-03-18	0

Table 1: List of Particular Material Appraisals for steel pipes

#### 2. Forgings

Sl.No	Material Standard	Material Grade	Issue Date	Revision
1	ASTM A105	-	2009-03-18	
2	ASTM A182	316	2009-03-18	0
3	ASTM A182	304	2009-03-18	0
4	ASTM A182	321	2009-03-18	0
5	ASTM A182	316L	2009-03-18	0
6	ASTM A350	LF2	2009-03-18	0

Table 2: List of Particular Material Appraisals for forged materials

#### 3. Fittings

Sl.No	Material Standard	Material Grade	Issue Date	Revision
1	ASTM A403	304	2009-03-18	0
2	ASTM A403	321	2009-03-18	0
3	ASTM A403	316	2009-03-18	0
4	ASTM A403	316L	2009-03-18	0

Table 3: List of Particular Material Appraisals for fittings



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#### 4. Plate materials

Sl.No	Material Standard	Material Grade	Issue Date	Revision
1	ASTM A240	316	2009-03-18	0
2	ASTM A240	304	2009-03-18	0
3	ASTM A240	321	2009-03-18	0
4	ASTM A240	316L	2009-03-18	0

Table 4: List of Particular Material Appraisals for plate materials

#### 5. Braid materials

Sl.No	Material Standard	Material Grade	Issue Date	Revision
1	ASTM A478	304	2009-03-18	0

Table 5: List of Particular Material Appraisals for braid materials

*Place and date*  
Høvik, 01-04-2009



Hans Dyrdal Rasmussen  
*Principal Engineer*