

Revised: 25 November 1998

Attachment A
01 July 1998
MT-10563-HG
T-8-15
P-45021
WPS/lo

Fiberdur Vanck GmbH,
Industriepark Emil Mayrisch
52457 Aldenhoven

**Type Approval-Certification
GRP (RTRP) Pipes & Fittings**

Name of Equipment Manufacturer:

Fiberdur Vanck GmbH Tel.: 02464/972-0
Industriepark Emil Mayrisch Fax.: 02464/972-115
52457 Aldenhoven

Equipment: GRP (RTRP) Pipes & Fittings
with detachable (flanged) or non-detachable (bonded) connections

Type (A): Fiberdur consisting of

1. Non Conductive
Reinforced Thermosetting "VINYLESTER" Resin
Pipes & Fittings Filament Wound
Series - Fiberdur "VE"
2. Non Conductive
Reinforced Thermosetting "EPOXY" Resin
Pipes & Fittings Filament Wound
Series - Fiberdur "EP"

Type (B): Fiberdur-Navicon consisting of

1. Conductive
Reinforced Thermosetting "VINYLESTER" Resin
Pipes & Fittings, Filament Wound
Series - Fiberdur NAVICON "VE"
2. Conductive
Reinforced Thermosetting "EPOXY" Resin
Pipes & Fittings, Filament Wound
Series - Fiberdur NAVICON "EP"

Description: All pipes and fittings noted are made from the composite material, glass fibre reinforced plastic which is a combination of high strength textile fibers and a thermosetting resin matrix, eg. Epoxy (EP) or vinylester resin (VP) made from basis material either "epoxy glass fibre" or "PHA-GF"

Ratings: Thermosetting "VINYLESTER" Resin Pipes & Fittings
Series Fiberdur VE and Fiberdur - Navicon VE

Type: (A1)/(B1) above	VE 16	VE10	VE6
Nominal Diameter	DN 25 to DN 300	DN 150 to DN 800	DN 350 to DN 800
M.A.W.P. [-40° to + 60°C]	16 bar	10 bar	6 bar
M.A.W.P. [at 80° C]	10 bar	6 bar	3,8 bar
M.A.W.P. [at 95° C max]	6 bar	4 bar	2,4 bar

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Type Approval-Certification
GRP (RTRP) Pipes & Fittings

- External Pressure as per Manufacturers specification (SF=3) (against collapse test pressure)
- M.A.W.P. between 60°C and 95°C max to be determined by linear interpolation

Ratings: Thermosetting "EPOXY" Resin Pipes & Fittings
Series Fiberdur EP and Fiberdur Navicon EP

Type: (A2)/(B2) above	EP 16	EP10	EP6
Nominal Diameter	DN 25 to DN 300	DN 150 to DN 800	DN 350 to DN 800
M.A.W.P.[-40° to + 80°C]	16 bar	10 bar	6 bar
M.A.W.P.[at 100° C]	10 bar	6 bar	2,4 bar

- External Pressure as per Manufacturers specification (SF=3) (against collapse test pressure)
- M.A.W.P. between 80°C and 100°C max to be determined by linear interpolation.

Intended Service: Shipboard Group II Piping Systems
Range of Application: as per "Fire Endurance Matrix", Table 4/6.4 of
the 1998 ABS Steel Vessel Rules e.g. either notation "O" or "L3"

Non conductive types (A) above are not to be installed in hazardous areas and
are not to convey fluids with a conductivity less than 1000 pico siemens per
meter.

Comments: - The installation of the piping system is to be carried out by qualified personnel in
accordance with the manufacturer's instructions.

- Each particular application/installation is to be specifically ABS approved.

Standards: 1998 ABS-Rules, 4/6.14.3
IMO-Resolution A.753 (18)