



# DET NORSKE VERITAS

## TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. E-9978  
This Certificate consists of 3 pages

*This is to certify that the*  
**Conduit, Fitting, Cable Pipe, Box, Etc.**

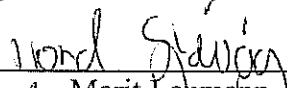
*with type designation(s)*  
**PARNB conduit with PAHOB system supports, PAGOB &  
VPGRB straight connectors, VPBRB 90 degree elbow, T & Y  
distributors**

*Manufactured by*  
**REIKU GmbH**  
WIEHL, Germany

*is found to comply with*  
Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det  
Norske Veritas' Offshore Standards  
IEC 61386-1:1996+A1: 2000

*Application*  
Not for use through areas where water or gastightness is required. Nor through areas of  
different fire or hazardous zones. When used outside cabinets, the conduit must contain  
cable(s), not single wires, as required by DNV Rules.


*Place and date*  
Høvik, 2009-12-02  
for DET NORSKE VERITAS AS

  
Marit Laumann  
*for* Head of Section



Local Office  
DNV Essen

*This Certificate is valid until*  
2013-12-31

  
Nicolay Horn  
Surveyor *lvabur*

Notice: This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.  
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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.



Cert. No.: E-9978  
File No.: 828.10  
Job Id: 262.1-002128

## Product description

Protection and support system for cables and wires, consisting of corrugated tubing, system supports, straight connectors, 90 degree arched elbow, T-and Y-distributors.

Corrugated tubing of various colours made from Polyamid 6 (PA-6), self-extinguishing, halogen free. Resistant to alcohol, grease, mineral oil, diesel oil, benzine and UV.

Conduits:

Type	Sizes Outer diameter (mm)	Ingress protection	Temperature range
PARNB*	10 to 54,5	At least IP 54	+40 °C to +105 °C

\* For detailed information see "Article report.

## Application/Limitation

Tubings are for mechanical protection. Tubings shall not to be used as an insulator.

For use as cable support and protection inside cabinets. The conduit must support the cables not vice versa.

When used outside cabinets, the conduit must give added protection to cables – not wires. Conduits with wires are not substitutes for cables.

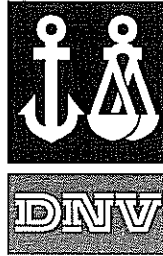
Not for use through areas where water or gastightness is required. Nor through areas of different fire or hazardous zones.

## Type Approval documentation

Technical info: Article report including drawings and Reiku datasheet Corr. Tubing PARNB-NW07 – NW48. Rev. 04 Special operational limitations referring to DIN EN 61386-1 :2004. "Technische Information Polyblac® PA 70043/2.

Test certificate: UL no. YDRQ2.E18970 dated 2003-02-17, File E168970 dated 1995-09-15

Test reports: Unterlagen zum DNV – Audit am 2008.02.27. Fire behaviour test report nos. 06-P-4010-TZF91-PR-4607/08/09 dated 2006-02-10.



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## Tests carried out

Type tests in accordance with IEC 61386-1:1996+A1: 2000.

Conduits passed the following tests carried out witnessed to DNV inspector:

- Compression Test (Druckprüfung)
- Cold Impact Test (Schlagprüfung an gefrorenem Wellrohr)
- Flexibility Test (Flexibilitätsprüfung)
- Resistance to flame propagation; Light emitting filament check and flame impingement by means of a burner (Widerstand gegenüber Flammausbreitung; Glühdrahtprüfung und beflammung mittels eines Bunsenbrenners)
- External Influences (Äußere Einflüsse)

Following documents were submitted concerning carried out and passed tests of independent testing facilities:

- Tests acc. to UL224 concerning:  
Heat Aging Test, Cold Bend Test, Heat Shock Test, Crush Test, Impact Test, All Tubing Flame Test, Fitting Strain Relief Test
- Test Report of Klöckner Moeller concerning ingress protection (IP67)

## Marking of product

REIKU - Type - Size - Ref. no.

## Certificate retention survey

The scope of the retention/renewal survey is to verify that the conditions stipulated for the Type approval is complied with and that no alterations are made to the product design or choice of materials.

The main elements of the survey are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Survey to be performed at least every second year.

END OF CERTIFICATE