



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. **E-11382**

This is to certify that the
Cable Gland

with type designation(s)
V-TEC VM, V-TEC L VM, V-TEC PG, V-TEC PG L

Manufactured by
OBO Bettermann GmbH & Co. KG
Menden, Germany

is found to comply with
Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards

Application
Cable glands for non-hazardous areas.

Høvik, 2011-12-08
for **Det Norske Veritas AS**

This Certificate is valid until
2015-12-31

Marit Laumann
Head of Section

DNV local office:
Essen

Sverre Eriksen
Surveyor

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.

Product description

Classification according to EN 50262:

Type designation	V-TEC VM
6.1 Material (Metallic, Non-metallic, composite)	Non-metallic (Polyamid)
6.2 Mechanical properties (without or with cable anchorage – type A, B , impact category)	With cable anchorage, type A
6.3 Electrical properties (with electric continuity or insulating characteristics)	With insulating characteristic
6.4 Resistance to external influences	
6.4.1 IP class	IP68 5 bar/1hr.
6.4.2 Temperature range if different from -20C to +65C	
Gland sizes [mm]	M12 - M63
Seal material	Chloroprene / nitrile rubber

Type designation	V-TEC L VM
6.1 Material (Metallic, Non-metallic, composite)	Non-metallic (Polyamid)
6.2 Mechanical properties (without or with cable anchorage – type A, B , impact category)	With cable anchorage, type A
6.3 Electrical properties (with electric continuity or insulating characteristics)	With insulating characteristic
6.4 Resistance to external influences	
6.4.1 IP class	IP68 5 bar/1hr.
6.4.2 Temperature range if different from -20C to +65C	
Gland sizes [mm]	M12 - M63
Seal material	Chloroprene / nitrile rubber

Type designation	V-TEC PG
6.1 Material (Metallic, Non-metallic, composite)	Non-metallic (Polyamid)
6.2 Mechanical properties (without or with cable anchorage – type A, B , impact category)	With cable anchorage, type not declared
6.3 Electrical properties (with electric continuity or insulating characteristics)	With insulating characteristics (according to DIN VDE 0619)
6.4 Resistance to external influences	
6.4.1 IP class	IP68 5 bar/1hr.
6.4.2 Temperature range if different from -20C to +65C	
Gland sizes [mm]	PG 7 - PG 48
Seal material	Chloroprene / nitrile rubber

Type designation	V-TEC PG L
6.1 Material (Metallic, Non-metallic, composite)	Non-metallic (Polyamid)
6.2 Mechanical properties (without or with cable anchorage – type A, B , impact category)	With cable anchorage, type not declared
6.3 Electrical properties (with electric continuity or insulating characteristics)	With insulating characteristics (according to DIN VDE 0619)
6.4 Resistance to external influences	
6.4.1 IP class	IP68 5 bar/1hr.
6.4.2 Temperature range if different from -20C to +65C	
Gland sizes [mm]	PG 7 - PG 48
Seal material	Chloroprene / nitrile rubber

Application/Limitation

For use in non-hazardous areas. The manufacturer's installation description to be followed.

Type Approval documentation

Tests carried out

Type tests in accordance with EN 50262, except the PG glands that are tested according to DIN VDE 0619 (predecessor document of EN 50262).

Marking of product

OBO – type designation.

Certificate Retention Survey

Certificate No.: E-11382
File No.: 828.90
Job Id.: 262.1-010455-1

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 of factory samples, selected at random from the production line (where practicable)
- Results from production sample tests (PST) and routine tests (RT) to be checked (if not available tests according to PST and RT to be carried out)
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and type approval certificate

Survey shall be performed at least every second year.

END OF CERTIFICATE