



DET NORSKE VERITAS TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. K-1953

This Certificate consists of 3 pages

This is to certify that the

Plastic Pipes, Thermoplastic

332.31

with type designation(s)

Geberit HDPE fittings

Manufactured by

Geberit International AG

Jona, Switzerland

is found to comply with

Det Norske Veritas' Rules for Classification of Ships
Det Norske Veritas' Type Approval Program for Thermoplastic Piping, preliminary

Application

Non-essential sanitary and drainage systems up to 1 bar and 20°C. The piping system is non-conductive, not for installation in gas hazardous area. The Fire Endurance and Flame Spread characteristic of the piping system has not been determined.

Place and date

Høvik, 2000-11-07

for Det Norske Veritas AS

This Certificate is valid until

2004-06-30

John Olav Nøkleby
Head of Section

Local Office
DNV Essen

Gisle Hersvik
Surveyor

Product description

High Density Polyethylene (HDPE) fittings to join Geberit HDPE pipe, ref. separate Type Approval Certificate issued to Geberit International AG (at Deriplast Spa, Villadose, Italy).

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List of approved fittings:

- Access pipe with oval access cover
- Adapter in PE with female thread
- Adapter in PE with male thread
- Bend 90_ with long radius
- Bend 135_
- Branch fitting 91.5_
- Concentric reducer
- Electroweld sleeve coupling
- Flange adapter

Application/Limitation

Non-essential sanitary and drainage systems up to 1 bar and 20_C.

The piping system is non-conductive, not for installation in gas hazardous area.

The Fire Endurance and Flame Spread characteristic of the piping system has not been determined.

Type Approval documentation

Tests carried out

Type Testing as per **Type Approval documentation**.

Marking of product

Fittings will be marked with: "Geberit PE".

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.

Survey to be performed after two (2) years (Certificate Retention Survey) and at renewal after four (4) years (Certificate Renewal Survey).

The main elements of the survey are:

- Ensure that **Type Approval documentation** is available.
- Review design, materials, production process, and performance with respect to possible changes, in order to ensure compliance with **Type Approval documentation** and/or referenced material specifications.
- Ensure traceability between manufacturer's product marking and the DNV Type Approval Certificate.

END OF CERTIFICATE

Notice: This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid

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.