



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. K-2674

This Certificate consists of 3 pages

This is to certify that the
Plastic Pipes, Thermoplastic


with type designation(s)
Geberit PVDF 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 systems for fresh and sea water up to 10 bar and 70°C. The piping system is not tested with respect to Fire Endurance and Flame Spread performance.

Place and date
Høvik, 2004-11-26
for DET NORSKE VERITAS AS

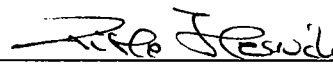


John Olav Nøkleby
Head of Section



Local Office
DNV Essen

This Certificate is valid until
2008-06-30



Gisle Hersvik
Surveyor

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.: K-2674
File No.: 332.31

Product description

Polyvinylidenfluorid (PVDF) fittings to join:

Geberit Mepla pipe 16, 20, 26, 32, 40, 50, 63 mm,

Geberit MeplaTherm pipe 16, 20 mm, and

Geberit MeplaFlex pipe 16, 20 mm,

ref. separate Type Approval Certificate issued to *Geberit International AG (at Geberit Farication SA, Givisiez, Switzerland)*.

List of approved fittings:

- Adapters
- Elbows, 45°, 90°
- Tees, reduced, equal
- Couplings
- Reducers

Application/Limitation

Non-essential systems for fresh and sea water up to 10 bar and 70°C. The Geberit MeplaTherm pipe is approved up to 6 bar and 70°C.

The piping system is not tested with respect to Fire Endurance and Flame Spread performance.

Pipe and fittings not to be installed in submerged condition

Type Approval documentation

1. Previous Type Approval Certificate no. K-1952.
2. Letter from DNV Essen of 2004-10-12, including Certificate Retention Survey report, ESN-04-2735, of 2004-07-15 and test reports.
3. Geberit Gesamtkatalog 2004.

Tests carried out

Type Testing carried out according to **Type Approval documentation**.

Marking of product

Fittings will be marked with:

“Geberit (dimensions) (production date)”.



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Certificate Retention/Renewal Survey

Surveys to be carried out at both:

Geberit International AG, Jona, Switzerland
Geberit Farication SA, Givisiez, Switzerland

(Fittings)
(Pipes)

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

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