



# Technical Information

## Nekal-tight fabric expansion joints

RAL-GZ 719

**TI-003**

Rev. 4

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1. In the quality and test specifications for fabric expansion joints it is mentioned under 2.1.4 and 3.1.4 "Tightness" that the expansion joints are tight in the sense of the latest edition of DECHEMA Information Sheet NDT 1, Supplement 2, Section 2.2 "Bubble method with foam-forming liquid (nekal-tight)". TI-005 finally describes the testing of fabric expansion joints.
2. The bubble method acc. to RAL TI-005 is a qualitative method. It serves for finding and proving an individual leakage.
3. In the RAL TI-005 statements are made regarding the sensitivity of test methods, namely measured as a PV product for characterizing an amount of gas.
  - 3.1. The sensitivity of the bubble method to furnish proof is stated to be
$$L = 10^{-2} \text{ to } 10^{-4} \text{ mbar} \cdot \text{l} \cdot \text{s}^{-1}$$
$$L = 1,4 \times 10^{-4} \text{ to } 10^{-6} \text{ inWC} \cdot \text{ft}^3 \cdot \text{s}^{-1}$$
  - 3.2. This indication refers to an individual leakage and cannot therefore be transferred to the integral leakage rate of an expansion joint.
4. Tightness is proved in a test unit by means of a foaming liquid (Nekal®) at room temperature.
  - 4.1. In conformance with the Quality and Test Regulations RAL-GZ 719, Item "2.2.6 Tightness", no bubbles may appear in the bellows area at a test pressure, which has to be 1½ times of the nominal pressure, but at least to 5000Pa (20 inWC).
  - 4.2. This refers both to the bellows area and to the clamping area.
5. The tightness may be proved on a mutually agreed design specimen and/or on site, on the installed original.
6. The tightness test can be agreed for all gaseous media.

**Edited by the Quality Committee of the Quality  
Association for Fabric Expansion Joints**