

Bubble point test

The bubble point test was standardized in ISO 2942 and ISO 4003 (= DIN ISO 2942 and DIN ISO 4003). It is a very informative test method that enables the verification of the maximum pore size of a filter surface and hence any damage to the filter surface to be demonstrated.

In this test, the investigated filter element is completely immersed at room temperature in a container filled for example with isopropanol. The element must be completely wet by the liquid (penetrated for at least 5 minutes). The filter element lies in the container with its lengthwise axis parallel to the surface (distance h). Compressed air is then injected into the filter element. It is important to slowly build the pressure so that it can rise evenly inside the filter element.

The pressure is recorded at which the first bubble (which looks like a champagne bubble) rises from the filter element. The required pressure is hence termed the bubble point. As the pressure is increased, bubbles exit the entire surface. During the test, the filter element must be rotated 360° to the lengthwise axis to test the entire perimeter of the element.

The fineness of a filter material can be assigned a specific bubble point and hence also be investigated by the test. The finer the filter material, the higher the required pressure to push air through the element. The most important information gathered from this test is whether the filter material is undamaged and the element was manufactured free of faults. If damage resulted from mechanical stress or poor manufacturing, bubbles will rise from these "holes" below the required bubble point. The bubbles arising at a low pressure indicated the existence of damage as well as its precise location.

Seebach GmbH

Neckarweg
D-34246 Vellmar
Germany

Telephone: +49 (0)561 98 29 70
Fax: +49 (0)561 98 29 733

At Seebach, nearly all welded filter elements are tested with the bubble point test, and the results are presented to the customer in the form of a quality certificate.

The following must be specified for each measurement:

- Filter type
- Liquid used for wetting
- Temperature of the system (room, fluid, filter) 14-50° C

Seebach GmbH
Neckarweg
D-34246 Vellmar
Germany

Telephone: +49 (0)561 98 29 70
Fax: +49 (0)561 98 29 733

Schematic test setup

