TQC PERMEABILITY CUPS
VF2200, VF2201

DATASHEET

PRODUCT DESCRIPTION

Permeability cups for determining the water-vapour transmission of paints, varnishes, coatings, coating systems and related products. The Permeability cup consists of a cup, seal ring and cover ring. The seal ring is designed to prevent turning when closing the cover. The Permeability cup is suitable for testing both self-supporting coating and non-self-supporting coatings. Water-vapour transmission is of interest for high humidity conditions. The wet cup method is thus the reference method for determining water-vapour transmission, if agreed up on otherwise, other procedures or conditions the dry cup method may be used.

BUSINESS

Coating Laboratories / Paint Production

STANDARDS

ISO 7783 (supersedes NF T30-018), ASTM D1653, ASTM E96

FEATURES

- Level indicator
- Width support ring
- Easy to use
- Non-rotational Seal ring
- Easy to clean

SCOPE OF SUPPLY

Permeability cup, consisting of:
- Cup
- Seal ring
- Cover ring

ORDERING INFORMATION

VF2200 - TQC Permeability cup 10cm^2
VF2201 - TQC Permeability cup 25cm^2

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SPECIFICATIONS

Article number	VF2200	VF2201
Surface area:	10 cm^2 / 1,55 $inch^2$	25 cm^2 / 3,88 $inch^2$
Volume	16cm^3 / 0,98 $inch^3$	40cm^3 / 2,44 $inch^3$
Internal diameter*:	35,7mm / 1.41 inch	56,40mm / 2,22 inch
External diameter*:	65,8mm / 2,59 inch	89,0mm / 3,5 g
Mass: (of empty cup)	Approx. 70 g / 2,47 oz	Approx. 94 g / 3,32 oz
Material:	Anodized Aluminium	Anodized Aluminium

* without seal

USE

1 Prepare the film (coating material) to be tested, either in self-supporting or non-self-supporting form.
   a. Self-supporting coating films can best be created using a non-stick substrate, for example silicone coated paper. The suitable non-stick substrate can vary per application.
   b. The sample can be cut to the appropriate size by using the seal ring as a cutting guide.
2 Fill the Permeability cup with the specified volume or to the specified distance from the edge with the required liquid or for the dry cup method with dry desiccant.
3 Place the pre-cut sample over the seal ring and align.
4 Place the seal ring with the sample on the flange of the cup, such that the film is between the cup flange and the seal ring. Take care that the seal ring is properly aligned to the pins on the outside of the flange.
5 Place the sealing ring and screw hand tight.
6 Weigh the assembly and record the mass in grams (M1) by means of a balance suitable to determine the change in mass of the test assembly. Balances with a resolution 0,001 g are found the most suitable.
7 Place the cup in a test environment as stated in the standard, and leave it undisturbed for the period of time stated in the test protocol / standard.
8 Weigh the assembly and note the weight at regular intervals (M2), until the mass loss per hour is linear.
9 Calculate the water-vapour transmission rate of the film in grams per square metre per day (g/(m2/d)). The required formula for the calculation depends on the used method dry cup or wet cup.
10 In order to open and clean the cup after the test the seal ring can best be released using the openings on the side of the cup.
11 After testing always store the clean cup in a dry environment.

SPECIAL CARE

- Always clean the instrument after use with a suitable solvent.
- Never clean the instrument by mechanical means such as a wire brush or abrasive paper. This may cause like the use of aggressive cleaning agents permanent damage.
- Regularly check the instrument for defects.

DISCLAIMER

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