

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 1195 *withdrawn 1980*

PLASTICS

DETERMINATION OF THE WATER VAPOUR TRANSMISSION RATE OF PLASTICS FILMS AND THIN SHEETS

DISH METHOD

1st EDITION

June 1970

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BRIEF HISTORY

The ISO Recommendation R 1195, *Plastics – Determination of the water vapour transmission rate of plastics films and thin sheets – Dish method*, was drawn up by Technical Committee ISO/TC 61, *Plastics*, the Secretariat of which is held by the American National Standards Institute (ANSI).

Work on this question led to the adoption of Draft ISO Recommendation No. 820, which was circulated to all the ISO Member Bodies for enquiry in May 1965. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Argentina	France	Romania
Australia	Germany	Spain
Austria	Hungary	Sweden
Belgium	India	Turkey
Brazil	Israel	U.A.R.
Canada	Italy	United Kingdom
Chile	Japan	U.S.A.
Czechoslovakia	New Zealand	U.S.S.R.
Finland	Poland	

The following Member Body opposed the approval of the Draft :

Switzerland

This Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided to accept it as an ISO RECOMMENDATION.

PLASTICS

DETERMINATION OF THE WATER VAPOUR TRANSMISSION RATE* OF PLASTICS FILMS AND THIN SHEETS

DISH METHOD

1. SCOPE

This ISO Recommendation describes a method for the determination of the water vapour transmission rate of plastics films and thin sheets using dishes with wax seal.

2. DEFINITION

The water vapour transmission rate of a film or thin sheet is the mass of water vapour transmitted from one face to the other, under a constant differential vapour pressure, per unit of surface area and during a given time. It should be expressed in grammes per square metre per 24 hours at the conditions of temperature and humidity defined at the two faces of the film or sheet. This transmission rate depends, of course, upon the thickness of the film and upon the permeability of its constituent material.

3. PRINCIPLE

Dishes containing a dehydrating agent and closed by the film or sheet to be tested are placed in an enclosure with constant and regulated temperature and relative humidity.

These dishes are weighed at intervals of time previously fixed. The water vapour transmission rate is found from the increase in mass once this has become proportional to time.

4. SIGNIFICANCE OF THE TEST

This test is intended to give reliable values of transmission rate by means of simple apparatus.

The use of the results for any particular application should, however, be guided by experience.

Transmission rate is not a linear function of temperature nor, generally, of relative humidity. A determination carried out under certain conditions is not valid under other conditions.

The conditions of test must therefore be chosen to be as close as possible to the conditions of use.

5. APPARATUS AND MATERIALS

5.1 *Dishes and accessories.* All the following items must be in glass or in a metal as light as possible and resistant to corrosion under the test conditions. Aluminium A5 protected by chemical or anodic oxidation is quite suitable.

The assembly must be sufficiently rigid. Aluminium sheet 1 mm thick is usually satisfactory.

* This characteristic is often erroneously termed "permeability".