

**HYDROLYSIS RESISTANCE OF THERMOPLASTIC MOULDING COMPOUNDS
(EXTRACTION-HYDROLYSIS-OXIDATION TEST, EHO-TEST)****Application**

This method is used to determine the hydrolysis resistance of thermoplastic moulding compounds on test specimens. It is suitable to distinguish stabilized materials from non-stabilized materials. The test is provided for use at the supplier's on the development of new stabilized thermoplastic moulding compounds.

Equipment Required**Autoclave** (Volume of 5 litres and sieve insert)

The tank must be equipped with thermostatic control and must be capable to maintain a temperature of 118 ± 2 °C over 24 hours. It must have 2 entries for air and water steam and 2 exits for condensing water and to atmosphere.

Air Supply

Capacity of 56 l/minute at a temperature of 118 ± 5 °C.

Steam Generator/Supply

1.9 bar

Tensile Testing Machine

With elongation indicator.

Water Tank**Test Specimens**

Tests shall be carried out on injection moulded specimens for tensile properties according to ISO R527, Type 1.

Conditioning and Test Conditions

All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 ± 2 °C and 50 ± 5 % relative humidity for not less than 24 h prior to testing and tested under the same conditions unless otherwise specified.

Date	Action	Revisions
2001 03 28	Revised	Editorial – no technical change A. Cockman
1994 02 28		

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Procedure

The autoclave is to be heated up to 118 +/- 2 °C. 20 test specimens are to be positioned on the sieve mounted in the test cabinet. The tank must be closed tightly.

The steam supply is to be set at 1.9 bar. The supplied air shall be heated to 118 +/- 5 °C and the flow set at 56 l/minute.

After ageing of 24 hours, 10 specimens are to be picked up for tensile testing according to ISO R527. They shall be cooled in a water tank at 23 +/- 2 °C, and within 1 hour after removal from the water tank the yield point is tested under standardized atmosphere of 23 +/- 2 °C and 50 +/- 5 % relative humidity. The test speed is adjusted according to the requirement of the specification. The average value from the 10 specimens has to be considered as original value.

After further ageing of 96 hours at 118 +/- 2 °C and 56 l/minute air flow rate the other 10 specimens are to be removed and cooled and tested as mentioned above. The average of these 10 specimens will be used for the calculation.

Evaluation

According to ISO R527 and engineering material specification the percentage decrease of yield point is reported.

Determination of yield point:

- | | |
|---------------------------|-------------|
| (a) Original value: | G_S |
| (b) Value after 96 hours: | $G_{S\ 96}$ |

Percentage decrease of yield point:

$$100 - \frac{100 \cdot G_{S\ 96}}{G_S} (\%)$$

Chemicals, materials, parts, and equipment referenced in this document must be used and handled properly. Each party is responsible for determining proper use and handling in its facilities.