

ISO 11443:2014-04 (E)

Plastics - Determination of the fluidity of plastics using capillary and slit-die rheometers

Contents		Page
Foreword		iv
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	General principles	4
5	Apparatus	4
5.1	Test device	4
5.2	Temperature control	9
5.3	Measurement of temperature and calibration	9
5.4	Measurement of pressure and calibration	10
5.5	Measurement of the volume flow rate of the sample	11
6	Sampling	11
7	Procedure	11
7.1	Cleaning the test device	11
7.2	Selection of test temperatures	11
7.3	Preparation of samples	12
7.4	Preheating	13
7.5	Determination of the maximum permissible test duration	13
7.6	Determination of test pressure at constant volume flow rate: Method 2	13
7.7	Determination of volume flow rate at constant test pressure: Method 1	13
7.8	Waiting periods during measurement	14
7.9	Measurement of extrudate swelling	14
8	Expression of results	15
8.1	Volume flow rate	15
8.2	Apparent shear rate	15
8.3	Apparent shear stress	16
8.4	True shear stress	17
8.5	True shear rate	21
8.6	Viscosity	22
8.7	Determination of extrudate swelling	22
9	Precision	23
10	Test report	24
10.1	General	24
10.2	Test conditions	24
10.3	Flow characteristics	25
10.4	Visual examination	26
Annex A (informative) Method of correcting for the influence of H/B on the apparent shear rate.27		
Annex B (informative) Measurement errors		29

Annex C (informative) Uncertainties in the determination of shear viscosity by capillary extrusion rheometry testing	30
Bibliography	36