

# DIN EN 15860:2018-09 (E)

## Plastics - Thermoplastic semi-finished products for machining - Requirements and test methods

---

<b>Contents</b>		<b>Page</b>
European foreword .....		4
1	Scope .....	5
2	Normative references .....	5
3	Terms and definitions .....	6
4	Materials .....	6
5	Requirements .....	7
5.1	As-delivered condition .....	7
5.2	Surface appearance .....	8
5.3	Dimensions and tolerances for rods .....	8
5.3.1	Diameter .....	8
5.3.2	Length .....	11
5.3.3	Roundness .....	11
5.3.4	Straightness .....	12
5.4	Dimensions and tolerances for hollow bars .....	13
5.4.1	Diameters .....	13
5.4.2	Length .....	15
5.4.3	Roundness .....	15
5.4.4	Straightness .....	15
5.4.5	Concentricity .....	16
5.5	Dimensions and tolerances for sheets .....	17
5.5.1	Thickness .....	17
5.5.2	Length and width .....	18
5.5.3	Straightness .....	19
5.6	Properties .....	22
5.6.1	Material properties .....	22
5.6.2	Dimensional stability after heat treatment .....	22
5.6.3	Physiological behaviour .....	24
6	Test methods .....	24
6.1	Test conditions .....	24
6.2	Sampling size .....	24
6.3	Test specimen preparation .....	24
6.3.1	Mechanical properties .....	24
6.3.2	Density .....	26
6.3.3	Melt volume-flow rate, viscosity number, melting temperature/glass transition temperature .....	26
6.3.4	Dimensional stability after heat treatment .....	26
6.4	As-delivered condition .....	27
6.5	Surface appearance .....	27
6.6	Accuracy of the dimension measuring instruments .....	27
6.7	Density .....	27
6.8	Tensile stress at yield and elongation at break .....	28
6.9	Tensile modulus of elasticity .....	28
6.10	Vicat softening temperature .....	28
6.11	Melt volume-flow rate (MVR) .....	28
6.12	Melting temperature/glass transition temperature .....	29

6.13	Viscosity number .....	29
6.14	Dimensional stability after heat treatment .....	29
6.15	Expression of test results .....	33
7	Designation .....	33
7.1	Rods .....	33
7.2	Hollow bars .....	33
7.3	Sheets .....	34
8	Marking .....	34
Annex A (normative) Determination of microporosity - Dye penetration method .....		35
A.1	Test specimen preparation .....	35
A.2	Test procedure .....	35
A.3	Test results .....	35
Annex B (normative) Tables for the conversion of deflection values (straightness) .....		37
Annex C (informative) Examples of calculation of dimensional stability after heat treatment .....		41
C.1	Rods .....	41
C.2	Hollow bars .....	41
C.3	Sheets .....	42
Annex D (informative) Some guideline values for material properties of thermoplastic semi-finished products .....		44
Bibliography .....		48