

Tinius Olsen

Test Conditions For Extrusion Plastometer (Melt Indexer)

<u>Polymer Type</u>	<u>ASTM Conditions</u> <u>ASTM D 1238</u>	<u>Required Items</u>	<u>Tinius Olsen Recommended Accessories</u>
Acetals	(190/2.16) and (190/1.05).	950g (part # 02001021) and 2,060g (part # 02001023) weights	190 °C thermometer (part # 02001009)
Acrylics	(230/1.2) and (230/3.8).	1,100g (part # 02001022) and 3,700g (part # 02001025) weights	230 °C thermometer (part #02001011)
Acrylonitrile-Butadiene-Styrene (ABS)	(200/5.0) (230/3.8) and (220/10)	3,700g (part # 02001025), 4,900g (part # 02001026) and 9,900g (part # 02001028) weights	200 °C (part # 02001010) 220 °C (part # 02001257) and 230°C(part # 02001011) thermometers
ABS/PC Blends	(230/3.8), (250/1.2), (265/3.8) & (265/5.0)	1,100g (part # 02001022) , 3,700g (part # 02001025) and 4,900g (part # 02001026) weights	230 °C (part # 02001011), 250°C (part # 02001013) and 265°C(part # 02001014) thermometers
Cellulose Esters	(190/0.325), (190/2.16), (190/21.6) and (210/2.16).	225g (part # 02001019), 2,060g (part #02001023), 4,900g (part # 02001026), 6,600g (part # 02001027) and 10,000g (part # 02001029) weights	190°C (part # 02001009) and 210°C (part #02001063) thermometers
Fluoroplastic (E-CTFE) per ASTM D 3275	(271.5/2.16)	Corrosion resistant alloy barrel liner (part # 02001424) & Piston foot (part # 02001113) Carbide orifice 0.0825" I.D. x 0.315" long (part # 02001031) 2,060g (part # 02001023) weight	273°C thermometer – consult factory for part no.
Fluoropolymer (ETFE) Types I, II and III per ASTM D3159.	(297/5.0)	Corrosion resistant alloy barrel liner (part # 02001424) & Piston foot (part # 02001113) Carbide orifice 0.0825" I.D. x 0.315" long (part # 02001031) 4,900g (part # 02001026) weight NOTE: Type I, grade 2 requires a 0.0625" I.D x 0.239" long carbide orifice – consult factory	297°C (part # 02001016) thermometer
Nylon	(275/0.325), (235/1.0), (235/2.16), (235/5.0) and (275/5.0)	225g (part # 02001019), 900g (part # 02001020), 2,060g (part # 02001023) and 4,900g (part # 02001026) weights	275°C (part # 02001015), and 235°C (part # 02001012) thermometers
(FEP) Fluorocarbon per ASTM D2116	(372/5.0)	Corrosion resistant alloy barrel liner (part # 02001424) & Piston foot (part # 02001113) Carbide orifice 0.0825" I.D. x 0.315" long (part # 02001031) 4,900g (part # 02001026) weights.	372°C (part # 02001018) thermometer
Fluorocarbon (PFA) per ASTM D3307	(372/5.0)	Corrosion resistant alloy barrel liner (part # 02001424) & Piston foot (part # 02001113) Carbide orifice 0.0825" I.D. x 0.315" long (part # 02001031) 4,900g (part # 02001026) weight	372°C (part # 02001018) thermometer

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Polychlorotrifluoroethylene	(265/12.5)	Corrosion resistant alloy barrel liner (part # 02001424) & Piston foot (part # 02001113) Carbide orifice 0.0825" I.D. x 0.315" long (part # 02001031) 2,400g (part # 02001024), 10,000g (part # 02001029) weights.	265°C (part # 02001014) thermometer
Polyethylene	(125/0.325), (125/2.16), (190/0.325), (190/2.16), (190/21.6) and (190/10.0).	225g (part # 02001019), 2,060g (part # 02001023) , 4,900g (part # 02001026), 6,600g (part # 02001027), 9,900g (part # 02001028) and 10,000g (part # 02001029) weights	125°C (part # 02001006), 190°C (part # 02001009) thermometers
Additional Items for use with special polyethylene	(310/12.5).	2,400g (part # 02001024) weight	310°C (part # 02001066) thermometer
Polycarbonate	(300/1.2).	1,100g (part # 02001022)	300°C (part # 02001017) thermometer
Polymonochlorotrifluoroethylene	(265/21.6)	Corrosion resistant alloy barrel liner (part # 02001424) & Piston foot (part # 02001113) Carbide orifice 0.0825" I.D. x 0.315" long (part # 02001031) 4,900g (part # 02001026), 6,600g (part # 02001027) and 10,000g (part # 02001029) weights	265°C (part # 02001014) thermometer
Polypropylene	(230/2.16).	2,060 g (part # 02001023)	230°C (part # 02001011) thermometer
Polystyrene.	(200/5.0), (230/1.2), (230/3.8) and (190/5.0).	1,100g (part # 02001022), 3,700g (part # 02001025) and 4,900g (part # 02001026) weights	190°C (part # 02001009), 200°C (part # 02001010)and 230°C (part # 02001011)thermometers
Polyvinyl acetal	(150/2.16).	2,060g (part # 02001023) weight	150°C (part # 02001007) thermometer
Polyvinylidene fluoride	(230/21.6) and (230/5.0)	Corrosion resistant alloy barrel liner (part # 02001424) & Piston foot (part # 02001113) Carbide orifice 0.0825" I.D. x 0.315" long (part # 02001031) 4,900g (part # 02001026), 6,600g (part # 02001027) and 10,000g (part # 02001029) weights	230°C (part # 02001011) thermometer
Polyphenylene-sulphide	(315/5.0).	4,900 g (part # 02001026) weight	315°C (part # 02001252) thermometer
Styrene-Acrylonitrile (SAN)	(230/3.8), (220/10) and (230/10)	3,700g (part # 02001025) and 9,900g (part # 02001028) weights	230°C (part # 02001011) and 220°C (part # 02001257) thermometer
Styrenic Thermoplastic Elastomer	(190/2.16) and (200/5.0)	2,060g (part # 02001023) and 4,900g (part # 02001026) weights	190°C (part # 02001009) and 200°C (part # 02001010) thermometers
Thermoplastic Elastomer Ether-Ester (TEEE)	(190/2.16), (220/2.16), (230/2.16), (240/2.16) and (250/2.16)	2,060g (part # 02001023) weight	190°C (part # 02001009), 220°C (part # 02001257), 230°C (part # 02001011) 240°C (part # 02001436) & 250°C(part # 02001013) thermometers

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Thermoplastic Elastomers (TEO)	(230/2.16)	2,060g (part # 02001023) weight	230°C (part # 02001011) thermometers
Vinylidene Flouride Copolymers	(230/21.6), (230/5.0), (120/5.0) and (120/21.6)	Corrosion resistant alloy barrel liner (part # 02001424) & Piston foot (part # 02001113) Carbide orifice 0.0825" I.D. x 0.315" long (part # 02001031) 4,900g (part # 02001026), 6,600g (part # 02001027) and 10,000g (part # 02001029) weights	120°C (part #02001005) and 230°C(part # 02001011) thermometers

NOTE: Conditions above are identified by the currently recommended temperature, in °C and load, in kg (Example: "190/2.16") designations which are listed in parentheses

<u>Polymer Type</u>	<u>ASTM Conditions</u> <u>Other Than D 1238</u>	<u>Required Items</u>	<u>Tinius Olsen Recommended Accessories</u>
Polyvinylchloride (PVC) per ASTM D3364 for non-rigid and semi-rigid	(175/5.0) and (175/20.0).	1" long, 120° entrance angle, 0.0825" I.D. stainless steel orifice (part # 02001032) 4,900 g (part # 02001026), 9,900g (part # 02001028) and 10,000g (part # 02001029)weights. High flow orifice plug (part # S-2203)	175°C (part # 02001008) thermometer
Additional items for use with rigid PVC	(190/21.6)	6,600g (part # 02001027) weight	190°C (part # 02001009) thermometer
Polybutylene (PB) per ASTM D2581	(190/2.16)	2,060g (part # 02001023) weight	190°C (part # 02001009) thermometer
Thermoplastic Polyester (PBT, PET, PBT+TEEE) per ASTM D5927	(240/2.16), (250/2.16) (250/5.0) and (285/2.16)	2,060g (part # 02001023) and 4,900g (part # 02001026) weights.	240°C (part # 02001436), 250°C (part # 02001013) and 285°C (part # 02001121) thermometers
Polyether-imide (PEI) per ASTM D5205	(295/6.7), (337/6.7) and (367/6.7)	6,600g (part # 02001027) weight	295°C (consult factory for part no.), 337°C (consult factory for part no.) and 367°C (consult factory for part no.) thermometers
Polymethyl Methacrylate (PMMA) per ASTM D788	(230/3.8)	3,700g (part # 02001025) weight	230°C (part # 02001011) thermometer
Polyketone (PK) per ASTM D5990	(240/2.16)	2,060g (part # 02001023) weight	240°C (part # 02001436) thermometer

NOTE: Conditions above are identified by the currently recommended temperature, in °C and load, in kg (Example: "190/2.16") designations which are listed in parentheses

NOTE: In cases where more than one condition is listed for a polymer type not all conditions may be required for testing a particular grade of that polymer. Consult the material specification sheet or your supplier to determine the applicable test condition(s) for your specific material.