

TPE Material Family Comparison



3DPiceland Labs
Generated with 3DPiceland Engineering Platform v70.0.4 DIRECT-IMPACT-METHODOLOGY - Izod and Charpy Methodology
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Public-data contract: only explicitly allowlisted MaterialIDs and existing Verified Material Summary scores are included. No measurements or scores are recalculated.

Comparison scope: Stable Material Family preset for TPE. Every included MaterialID has explicit Public reports opt-in.

Materials compared
2

Overall score available
0

All 8 axes available
0

Engineering-axis leaders in this comparison

Axis	Leading material	Score
Overall	—	n/a
Tensile	—	n/a
Impact	—	n/a
Izod	—	n/a
Charpy	—	n/a

Axis	Leading material	Score
Stiffness	—	n/a
Consistency	—	n/a
Layer adhesion	—	n/a
Thermal	—	n/a

Materials and evidence context

Material ID	Material	Manufacturer	Product line	Type	Reinforcement	Rigid test coverage	Engineering axes
MAT0259	Thorwell Standard Blue TPE Blue	Thorwell	Standard	TPE		No native results; 0/5 score families; Izod/Charpy 0/2 measured, 0/2 scored; Overall unavailable: missing measurements or references; policy engineering-score-v70-1	0/8
MAT0258	Yasin Standard Black TPE Black	Yasin	Standard	TPE		No native results; 0/5 score families; Izod/Charpy 0/2 measured, 0/2 scored; Overall unavailable: missing measurements or references; policy engineering-score-v70-1	0/8

Side-by-side engineering scores

Material ID	Material	Manufacturer	Reinforcement	Rigid coverage	Evidence	Overall	Tensile	Impact	Izod	Charpy	Stiffness	Consistency	Layer adhesion	Thermal	Fixture °C	Method	Thermal limitation	MSRP USD/kg
MAT0259	Thorwell Standard Blue TPE Blue	Thorwell		No native results; 0/5 score families; Izod/Charpy 0/2 measured, 0/2 scored; Overall unavailable: missing measurements or references; policy engineering-score-v70-1	0/8	—	—	—	—	—	—	—	—	—	n/a			\$40.00
MAT0258	Yasin Standard Black TPE Black	Yasin		No native results; 0/5 score families; Izod/Charpy 0/2 measured, 0/2 scored; Overall unavailable: missing measurements or references; policy engineering-score-v70-1	0/8	—	—	—	—	—	—	—	—	—	n/a			\$52.16

Results are comparative 3DPIceland measurements and do not replace manufacturer datasheets or accredited laboratory testing.

[Testing methodology](#) · [Engineering methodology whitepaper](#) · [Download PDF](#)

Thorwell Standard Blue TPE Blue

Flexible Material Testing

Comparative in-house measurements; n = independent specimens. Separate test groups; Overall unchanged.

Method	Result	Condition	Mean	n	SD	CV %	Range	Not reached
eaacea91	Apparent Compressive Stress at 20% Strain (MPa)	10 s hold · 2 mm displacement · cycle 1	3.809	10	0.062	1.617	3.725–3.898	0
eaacea91	Apparent Compressive Stress at 20% Strain (MPa)	30 s hold · 2 mm displacement · cycle 1	3.567	10	0.052	1.461	3.505–3.663	0
eaacea91	Compression Force at 20% Strain (N)	10 s hold · 2 mm displacement · cycle 1	242.3	10	3.917	1.617	237–248	0
eaacea91	Compression Force at 20% Strain (N)	30 s hold · 2 mm displacement · cycle 1	226.9	10	3.315	1.461	223–233	0
eaacea91	Force reduction from 10 s to 30 s at 20% Strain (%)	first compression only · 2 mm displacement	6.346	10	1.272	20.038	4.979–9.677	0
eaacea91	Force retention at 20% Strain (%)	10–30 s · 2 mm displacement · cycle 1	93.654	10	1.272	1.358	90.323–95.021	0
eaacea91	Residual height loss after recovery (%)	20% compression · 30 s compressed hold · 60 s rest · 10 mm initial height · cycle 1	4	10	1.069	26.719	1–4.6	0
ed381ba8	Shore A Hardness (Shore A)	10 s reading · 8 mm	90.9	1	—	—	90.9–90.9	0

Shore location statistics

Within each specimen; specimen numbers are local to each test group. SD uses the sample formula. These readings do not increase independent n.

Method	Scale	Condition	Specimen	Readings	Mean	Location SD	Location CV %
ed381ba8	Shore A Hardness	10 s reading · 8 mm	1	5	90.9	1.025	1.127

Yasin Standard Black TPE Black

Flexible Material Testing

Comparative in-house measurements; n = independent specimens. Separate test groups; Overall unchanged.

Method	Result	Condition	Mean	n	SD	CV %	Range	Not reached
eaacea91	Apparent Compressive Stress at 20% Strain (MPa)	10 s hold · 2 mm displacement · cycle 1	1.93	8	0.065	3.366	1.839–2.012	0

Method	Result	Condition	Mean	n	SD	CV %	Range	Not reached
eaacea91	Apparent Compressive Stress at 20% Strain (MPa)	30 s hold · 2 mm displacement · cycle 1	1.802	8	0.068	3.758	1.713–1.902	0
eaacea91	Compression Force at 20% Strain (N)	10 s hold · 2 mm displacement · cycle 1	122.75	8	4.132	3.366	117–128	0
eaacea91	Compression Force at 20% Strain (N)	30 s hold · 2 mm displacement · cycle 1	114.625	8	4.307	3.758	109–121	0
eaacea91	Force reduction from 10 s to 30 s at 20% Strain (%)	first compression only · 2 mm displacement	6.624	8	1.158	17.487	4.724–8.594	0
eaacea91	Force retention at 20% Strain (%)	10–30 s · 2 mm displacement · cycle 1	93.376	8	1.158	1.241	91.406–95.276	0
eaacea91	Residual height loss after recovery (%)	20% compression · 30 s compressed hold · 60 s rest · 10 mm initial height · cycle 1	3.463	8	0.501	14.476	3–4.6	0
ed381ba8	Shore A Hardness (Shore A)	10 s reading · 8 mm	79.3	1	—	—	79.3–79.3	0

Shore location statistics

Within each specimen; specimen numbers are local to each test group. SD uses the sample formula. These readings do not increase independent n.

Method	Scale	Condition	Specimen	Readings	Mean	Location SD	Location CV %
ed381ba8	Shore A Hardness	10 s reading · 8 mm	1	5	79.3	1.304	1.644

Stable public path: reports/comparisons/material-family-tpe/

Score policy engineering-score-v70-1: Overall requires tensile, stiffness, consistency, layer adhesion and the Izod/Charpy impact family, each with equal weight. Both impact methods and configured versioned references are required. Missing results and unconfigured scores remain n/a. Legacy Impact is historical only; thermal remains separate. Engineering-axis counts describe displayed evidence, not Overall completeness.