PolyBull
Extreme 3D Printing

ABS - ESD7

Thermoplastic

Production Grade

- Static dissipative
- Ideal for electronic products
- Functional prototypes

Thermoplastic with static dissipative properties.

Properties	Metric	Test Method
Tensile Strength	36 MPa	ASTM D638
Tensile Modulus	2,400 MPa	ASTM D638
Tensile Elongation	3%	ASTMD638
Flexural Strength	61 MPa	ASTM D790
Flexural Modulus	2,400 MPa	ASTM D790
IZOD impact, notched	28 J/m	ASTM D256
IZOD Impact,un-notched	55 J/m	ASTM D256

ABS-ESD7TM (acrylonitrile butadiene styrene-electrostatic dissipative) is an ABS thermoplastic with static dissipative properties for applications where a static charge can damage products, iMPair their performance or cause an explosion. ABS-ESD7 prevents a buildup of static electricity, so it will not produce a static shock or cause other materials like powders, dust and fine particles to stick to it. Ideal for electronic products with circuit boards and for the transportation and industrial equipment industries. Most widely used to create jigs and fixtures for the assembly of electronic components, but it is also useful for building functional prototypes of fuel storage and delivery products, as well as cases, enclosures and packaging.

3D Printing Materials

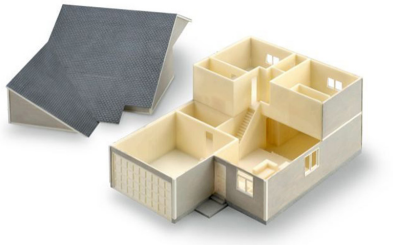
FDM MATERIALS

PolyBull b.v.
Handzamestraat 159, 8610 Handzame - Belgium
www.polybull.be I info@polybull.be

PolyBull
Extreme 3D Printing

ABS - M30

Thermoplastic



Production Grade

- Concept models
- Strong
- Affordable

Perfect for functional prototyping.

Properties	Metric	Test Method
Tensile Strength	26 MPa	ASTM D638
Tensile Modulus	2,180 MPa	ASTM D638
Tensile Elongation	7%	ASTMD638
Flexural Strength	48 MPa	ASTM D790
Flexural Modulus	1,760 MPa	ASTM D790
IZOD impact, notched	128 J/m	ASTM D256
IZOD Impact,un-notched	300 J/m	ASTM D256

ABS-M30™ is up to 25 to 70 percent stronger than standard ABS and is an ideal material for conceptual modeling, functional prototyping, manufacturing tools and end-use-parts. ABS-M30 has greater tensile, iMPact and flexural strength than standard ABS. Layer bonding is significantly stronger than that of standard ABS, for a more durable part. This results in more realistic functional tests and higher quality parts for end use. ABS-M30 parts are stronger, smoother and have better feature detail.

3D Printing Materials

FDM MATERIALS

PolyBull b.v.
Handzamestraat 159, 8610 Handzame - Belgium
www.polybull.be I info@polybull.be

PolyBull
Extreme 3D Printing

ABS - M30i

Thermoplastic

Production Grade

- Bio-CoMPatible
- Medical
- Pharmaceutical
- Gamma or EtO sterilized

Medical, Pharmaceutical and food industries.

Properties	Metric	Test Method
Tensile Strength	36 MPa	ASTM D638
Tensile Modulus	2,400 MPa	ASTM D638
Tensile Elongation	4%	ASTMD638
Flexural Strength	61 MPa	ASTM D790
Flexural Modulus	2,300 MPa	ASTM D790
IZOD impact, notched	139 J/m	ASTM D256
IZOD Impact,un-notched	283 J/m	ASTM D256

ABS-M30i is a high strength material well suited for the medical, pharmaceutical and food packaging industries. Parts manufactured with ABS-M30i material are biocoMPatible (ISO 10993 USP Class VI)* and can be gamma or EtO sterilized. When combined with Fortus® 3D Production Systems, ABS-M30i gives you biocoMPatible Real PartsTM with excellent mechanical properties that are well suited for conceptual modeling, functional prototyping, manufacturing tools, and end-use-parts.

3D Printing Materials

FDM MATERIALS

PolyBull b.v.
Handzamestraat 159, 8610 Handzame - Belgium
www.polybull.be I info@polybull.be

PolyBull
Extreme 3D Printing

ASA

Thermoplastic

Production Grade

- Outdoor use
- UV Resistance
- Automotive Prototypes

UV-Stable, production grade.

Properties	Metric	Test Method
Tensile Strength	3,850 psi	ASTM D638
Tensile Modulus	280,000 psi	ASTM D638
Tensile Elongation	2%	ASTMD638
Flexural Strength	6,900 psi	ASTM D790
Flexural Modulus	240,000 psi	ASTM D790
IZOD impact, notched	64 J/m	ASTM D256
IZOD Impact,un-notched	321 J/m	ASTM D256

Outdoor-use production parts benefit from the strength, color choice and UV resistance of ASA material. From electrical housings and brackets to sporting goods and automotive prototypes, ASA's ease of use also make it a great choice for iterative design.

3D Printing Materials

FDM MATERIALS

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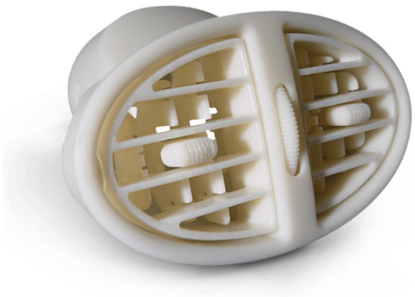
PolyBull
Extreme 3D Printing

Accura 25

Polypropyene - Like class



Production Grade

- Functional assemblies
- Master patterns for RTV/Silicone molding
- Concept and marketing models

Accurate and flexible plastic.

Properties	Metric	Test Method
Tensile Strength	55 MPa	ASTM D638
Tensile Modulus	1660 MPa	ASTM D638
Tensile Elongation	13%	ASTMD638
Flexural Strength	55 MPa	ASTM D790
Flexural Modulus	1380 MPa	ASTM D790
IZOD impact, notched	-	-
IZOD Impact,un-notched	-	-

Accurate and flexible plastic ideal for snap fit assemblies, master patterns for vacuum casting and durable functional prototypes with the aestics of molded polypropylene (PP).

3D Printing Materials

SLA MATERIALS

PolyBull b.v.
Handzamestraat 159, 8610 Handzame - Belgium
www.polybull.be I info@polybull.be

PolyBull
Extreme 3D Printing

Accura 48HTR

High temp & composite class

Production Grade

- Thermal resistant transparent prototypes (up to 130°C)
- Fluid visualization
- HVAC components
- Under the hood testing
- Internal structures visualization
- Wind tunnel models

Heat resistance up to130°C (266°F).

Properties	Metric	Test Method
Tensile Strength	64 MPa	ASTM D638
Tensile Modulus	2800 MPa	ASTM D638
Tensile Elongation	4%	ASTMD638
Flexural Strength	105 MPa	ASTM D790
Flexural Modulus	2760 MPa	ASTM D790
IZOD impact, notched	-	-
IZOD Impact,un-notched	-	-

Accura 48 HTR is a rigid and stiff plastic material for applications that require high-heat resistance, ideal for automotive, aerospace and electronic components testing up to 130 °C/266 °F. Material transparency allows for visualization of internal structures in assemblies and fluid flow analysis. Offering long term stable properties and chemicals resistance, it is ideal for under-the-hood component testing.

3D Printing Materials

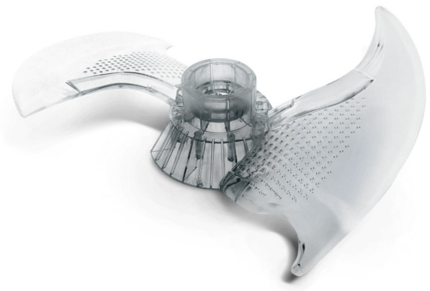
SLA MATERIALS

PolyBull b.v.
Handzamestraat 159, 8610 Handzame - Belgium
www.polybull.be I info@polybull.be

PolyBull
Extreme 3D Printing

Accura 60

Clear class



Production Grade

- Clear and transparent (low)
- Rigid and strong
- Transparent assemblies

Clear plastic for rigid and strong parts.

Properties	Metric	Test Method
Tensile Strength	58 MPa	ASTM D638
Tensile Modulus	2690 MPa	ASTM D638
Tensile Elongation	5%	ASTMD638
Flexural Strength	87 MPa	ASTM D790
Flexural Modulus	2700 MPa	ASTM D790
IZOD impact, notched	-	-
IZOD Impact,un-notched	-	-

Clear plastic for quickly producing rigid and strong parts with the aesthetics of molded polycarbonate (pc). Also suitable for investment casting patterns.

3D Printing Materials

SLA MATERIALS

PolyBull b.v.
Handzamestraat 159, 8610 Handzame - Belgium
www.polybull.be I info@polybull.be

PolyBull
Extreme 3D Printing

Accura ABS Black

Thermoplastic

Production Grade

- Robust ABS-Like parts
- Smooth surface finish
- Moisture resistance

Simulate and replace CNC machined ABS articles

Properties	Metric	Test Method
Tensile Strength	45 MPa	ASTM D638
Tensile Modulus	1890 MPa	ASTM D638
Tensile Elongation	6%	ASTMD638
Flexural Strength	75 MPa	ASTM D790
Flexural Modulus	2260 MPa	ASTM D790
IZOD impact, notched	-	-
IZOD Impact,un-notched	-	-

Rigid and tough material that allows users to build black parts without painting. Simulates and replaces CNC-Machined ABS articles for functional assemblies and short-run production parts.

3D Printing Materials

SLA MATERIALS

PolyBull b.v.
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PolyBull
Extreme 3D Printing

Accura Bluestone

High temp & composite class

Production Grade

- High stifness
- Heat and abrasion resistance
- Chemical resistance
- Great for windtunnel models, jigs and fixtures

Stable, high stiffness parts.

Properties	Metric	Test Method
Tensile Strength	66 MPa	ASTM D638
Tensile Modulus	7600 MPa	ASTM D638
Tensile Elongation	1.4%	ASTMD638
Flexural Strength	124 MPa	ASTM D790
Flexural Modulus	8300 MPa	ASTM D790
IZOD impact, notched	-	-
IZOD Impact,un-notched	-	-

Stable engineered nano composite for high stiffness parts such as wind-tunnel test models, fixtures, jigs and tools, lightning components, “under-the-hood” automotive parts and electrical components.

3D Printing Materials

SLA MATERIALS

PolyBull b.v.
Handzamestraat 159, 8610 Handzame - Belgium
www.polybull.be I info@polybull.be

PolyBull
Extreme 3D Printing

Accura ClearVue

Clear class

Production Grade

- Light and lenses
- Fluid Flow
- Clear and transarent (High) USP class VI capable
- Moisture resistance

High clarity plastic for a multitude of applications.

Properties	Metric	Test Method
Tensile Strength	41 MPa	ASTM D638
Tensile Modulus	2030 MPa	ASTM D638
Tensile Elongation	4%	ASTMD638
Flexural Strength	53 MPa	ASTM D790
Flexural Modulus	1560 MPa	ASTM D790
IZOD impact, notched	-	-
IZOD Impact,un-notched	-	-

High clarity plastic with excellent humidity / Moisture resistance for a multitude of applications, where transparency is the key, such as headlamps, complex assemblies or fluid flow. Capable of meeting usp class VI.

3D Printing Materials

SLA MATERIALS

PolyBull b.v.
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PolyBull
Extreme 3D Printing

Polycarbonate (PC)

Thermoplastic

Production Grade

- Flexural strength
- tensile strength

Most widely used industrial thermoplastic.

Properties	Metric	Test Method
Tensile Strength	68 MPa	ASTM D638
Tensile Modulus	2280 MPa	ASTM D638
Tensile Elongation	-	-
Flexural Strength	104 MPa	ASTM D790
Flexural Modulus	2234 MPa	ASTM D790
IZOD impact, notched	53 J/m	ASTM D256
IZOD Impact,un-notched	320 J/m	ASTM D256

Polycarbonates (PC) are among the most widely used industrial thermoplastics owing to the material's excellent iMPact strength and temperature resistance. The mechanical properties of PC make this material ideal for demanding engineering environments or applications requiring high flexural strength and tensile strength.

3D Printing Materials

FDM MATERIALS

PolyBull b.v.
Handzamestraat 159, 8610 Handzame - Belgium
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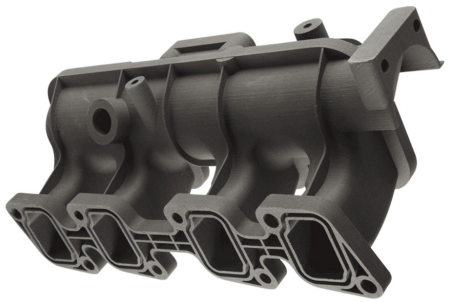
PolyBull
Extreme 3D Printing

PA12

Thermoplastic



Production Grade

- Functional assemblies
- Strong
- Prototyping
- End-user parts

Strong industrial grade parts.

Properties	Metric	Test Method
Tensile Strength	48 MPa	ASTM D638
Tensile Modulus	1700 MPa	ASTM D638
Tensile Elongation	20%	ASTMD638
Flexural Strength	65 MPa	ASTM D790
Flexural Modulus	1730 MPa	ASTM D790
IZOD impact, notched	3,5KJ/m^2	ASTM D256
IZOD Impact,un-notched	-	-

Being a solid material, polyamide powder has the attractive feature of being self-supporting for the generated product sections. Polyamide allows the production of fully functional prototypes or end-use parts with high mechanical and thermal resistance. Polyamide parts have excellent long-term stability and are resistant against most chemicals.

3D Printing Materials

MJF

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www.polybull.be I info@polybull.be

PolyBull
Extreme 3D Printing

TPU

Thermoplastic

Production Grade

- Rubber like
- Durable
- Good shock absorption

Strong but flexible parts.

Properties	Metric	Test Method
Tensile Strength	7 MPa	DIN ISO 7619-1
Tensile Modulus	75 MPa	ISO 527-2, 1A
Tensile Elongation	120%	DIN 53504, S2
Flexural Strength	-	-
Flexural Modulus	75 MPa	ISO 178
IZOD impact, notched	-	-
IZOD Impact,un-notched	-	-

TPU, a thermoplastic polyurethane, is a fully-functional and flexible material with high elongation at break. TPU combines durable elasticity with good wear resistance and abrasion resistance, making it an ideal material for prototyping and manufacturing applications that require good shock absorption and rubber-like elasticity over a wide range of temperatures. Produced with Multi Jet Fusion technology, TPU exhibits smooth surfaces and high detail.

3D Printing Materials

MJF

PolyBull b.v.
Handzamestraat 159, 8610 Handzame - Belgium
www.polybull.be I info@polybull.be

PolyBull
Extreme 3D Printing

Accura Xtreme White

Thermoplastic

Production Grade

- Exceptionally tough and durable
- Resists breakage.
- Great for snap fits
- Master patterns for vacuum casting

Ultra tough white plastic.

Properties	Metric	Test Method
Tensile Strength	45 MPa	ASTM D638
Tensile Modulus	2300 MPa	ASTM D638
Tensile Elongation	7%	ASTMD638
Flexural Strength	75 MPa	ASTM D790
Flexural Modulus	2350 MPa	ASTM D790
IZOD impact, notched	-	-
IZOD Impact,un-notched	-	-

Ultra-tough white plastic that resists breakage and handles challenging functional assemblies. Replace CNC-machined polypropylene and ABS. Also ideal for master patterns for vacuum casting.

3D Printing Materials

SLA MATERIALS

PolyBull b.v.
Handzamestraat 159, 8610 Handzame - Belgium
www.polybull.be I info@polybull.be

PolyBull
Extreme 3D Printing

CE221

Polymers

Production Grade

- 231°C heat deflection
- Strength
- Stiffness
- Long term thermal stability

Highly temperature resistant and stiff.

Properties	Metric	Test Method
Tensile Strength	92 MPa	ASTM D638
Tensile Modulus	3870 MPa	ASTM D638
Tensile Elongation	3.3 %	ASTMD638
Flexural Strength	131 MPa	ASTM D790
Flexural Modulus	3780 MPa	ASTM D790
IZOD impact, notched	15 J/m	ASTM D256
IZOD Impact,un-notched	291 J/m	ASTM D256

With a 231°C heat deflection temperature, strength, and stiffness, CE 221 is perfect for applications that need long term thermal stability, like under-the-hood components, electronics assemblies, and industrial products. CE is comparable to glass-filled nylon.

3D Printing Materials

SLA MATERIALS

PolyBull b.v.
Handzamestraat 159, 8610 Handzame - Belgium
www.polybull.be I info@polybull.be

PolyBull
Extreme 3D Printing

HT-23 (Peek)

Polyaryletherketones

Production Grade

- Extreme strong
- Flame retardant
- Chemically resistance

High performance parts.

Properties	Metric	Test Method
Tensile Strength	61 MPa	ASTM D638
Tensile Modulus	5.8 Gpa	ASTM D638
Tensile Elongation	1.1%	ASTMD638
Flexural Strength	101 MPa	ASTM D790
Flexural Modulus	5.97 Gpa	ASTM D790
IZOD impact, notched	20 J/m	ASTM D256
IZOD Impact,un-notched	80 J/m	ASTM D256

This medium-gray high-performance plastic from the group of polyetherketoneketones (PEKK) consists of 23% carbon fibers encapsulated (compounded) in the round powder grains of the material. By comparison with 3D-printed components, which have dry mixed carbon fibers, the properties of parts made from HT-23 are almost isotropic. They are also chemically resistant, with a high melting point, and their inherent flame-retardant properties are similar to ULTEM™ filament*. The material is approved for parts destined for the interior of trains under DIN EN 45545-2:2016, Requirement Sets R1 and R24.

3D Printing Materials

SLS MATERIAL

PolyBull b.v.
Handzamestraat 159, 8610 Handzame - Belgium
www.polybull.be I info@polybull.be