

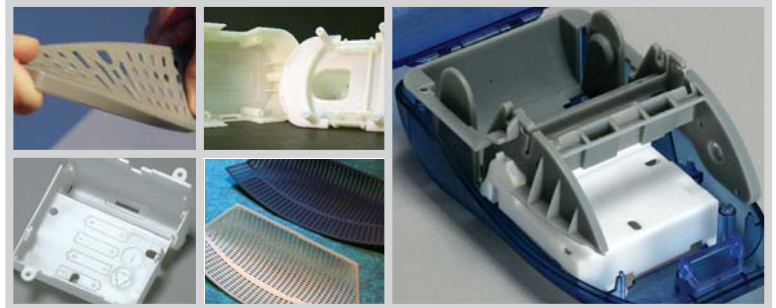


Accura[®] 50 plastic

Natural and Grey colors - for use with all solid-state SLA[®] systems



A durable, accurate material for producing functional prototypes with the look and feel of molded ABS in 3D Systems' SLA systems



Available in two colors — natural and grey!

APPLICATIONS

- Functional components for assemblies, mock-ups and test for many uses, including:
 - Enclosures, covers and cases for consumer goods
 - Toys
 - Cellular/mobile telephones
 - Electronic components: connectors, interconnects, routing enclosures, etc.
 - Automotive design elements: dash boards, air conditioning vents, etc.
- Accurate, durable master patterns for RTV/silicone molding
- Snap-fit assemblies
- Replace CNC machining of ABS to produce short-run plastic parts
- Simulate a molded part
- Concept models
- Marketing models

BENEFITS

Durable and accurate SL material

- Versatile enough for general-purpose part building
- Little or no shrinkage-related distortion compared to other "durable" materials
- Accurate enough for use as a master pattern for urethane casting, and durable enough for easy de-molding
- Durable and flexible enough for snap-fits and assemblies
- Stiff enough for thin-walls that are rigid and robust
- Withstands vigorous testing better than other general-purpose materials
- Returns to shape after flexing, showing good memory

ABS plastic properties

- Flexural modulus/stiffness similar to molded ABS
- Choice of grey and natural (ivory-white) color, simulating production plastic parts
- Smooth and shiny sidewall are suggestive of a molded part
- Reduce dependence on CNC machining and molding processes to create parts with an ABS-like appearance

Easy post processing

- Cleans easily with traditional solvents, leaving little residue, unlike ABS-simulants from other suppliers
- Supports remove easily and quickly without chipping
- Smooth sidewalls and excellent surface finish minimizes post-processing time and effort

Fully developed and tested build styles from 3D Systems

- Plug & play styles require no user "experimentation"
- Highly reliable and consistent styles deliver outstanding build success rate

Accura 50 plastic

For use with all solid-stated-equipped SLA systems, including the Viper SLA system, SLA 3500, SLA 5000 and SLA 7000 systems.

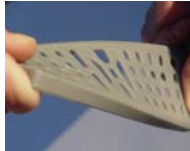
"si 50 is a versatile, reliable material that is the best we've seen in our more than 10 years in business. We've experienced a 100% build success rate which saves us time and money. It is an excellent general-use material with ABS-like properties that is as good for models, snap-fits and functional prototypes as it is for master patterns. This provides us with greater flexibility to meet our customers' needs".

-- Ron Belknap - Managing Partner, ProtoCAM

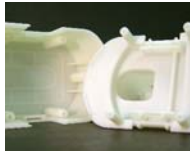
Nine piece Accura 50 grey and natural prototype assembly.



Accura 50 plastic is a tough, resilient material.



Accura 50 natural plastic material.



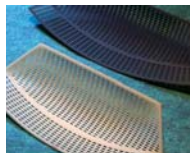
Printer assembly of production (blue) and Accura 50 grey and natural plastic parts.



Accura 50 plastic looks like a molded ABS part.



Pair of dishwasher components (grey and natural) produced for functional testing.



TECHNICAL DATA

Liquid Material

MEASUREMENT	CONDITION	VALUE:
Appearance		Opaque natural or opaque grey
Liquid Density	@ 25 °C (77 °F)	1.15 g/cm ³
Solid Density	@ 25 °C (77 °F)	1.21 g/cm ³
Viscosity	@ 30 °C (86 °F)	600 cps
Penetration Depth (Dp) *		4.5 mils
Critical Exposure (Ec) †		9.0 mJ/cm ²
Tested Build Styles		FAST™, EXACT™, Exact HR

Post-cured Material

MEASUREMENT	CONDITION	VALUE:
Tensile Strength	ASTM D 638	48 - 50 MPa (7,030 - 7,240 PSI)
Tensile Modulus	ASTM D 638	2,480 - 2,690 MPa (360 - 390 KSI)
Elongation at Break (%)	ASTM D 638	5.3 - 15.0 %
Flexural Strength	ASTM D 790	72 - 77 MPa (10,400 - 11,200 PSI)
Flexural Modulus	ASTM D 790	2,210 - 2,340 MPa (320 - 340 KSI)
Impact Strength (Notched Izod)	ASTM D 256	16.5 - 28.1 J/m (0.31 - 0.51 ft-lbs/in)
Heat Deflection Temperature	ASTM D 648	
	@ 66 PSI	49 - 53 °C (120 - 127 °F)
	@ 264 PSI	43 - 46 °C (109 - 115 °F)
	@ 66 PSI with 160 °C Thermal Postcure	74 - 80 °C (165 - 176 °F)
Hardness, Shore D		86
Co-efficient of Thermal Expansion	ASTM E 831-93	
	TMA (T<Tg, 0 - 20°C)	73 x 10 ⁻⁶ m/m °C
	TMA (T>Tg, 90 - 150°C)	164 x 10 ⁻⁶ m/m °C
Glass Transition (Tg)	DMA, E"	62 °C (144 °F)

* Dp/Ec values are the same on all systems.



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