

10/2018

# Technical Data Sheet

## SolFlex Tech Tough

### Components

Urethane – Acrylate high reactive Photopolymer

### Product Description

SolFlex Tech Tough is a medium-viscous, highly reactive photopolymer for stereolithography applications resulting in tough multipurpose parts. It can be used to produce high performance functional parts by using digital light processing (DLP) 3D printers.

High impact strength, high E-modulus, and good heat deflection temperature are the key features of SolFlex Tech Tough. These properties ensure an adequate quality of tough and complex 3D printed parts. SolFlex Tech Tough can fulfill the requirements of functional applications regarding high accuracy and mechanical strength.

### Delivery form and warehousing

SolFlex Tech Tough was developed for UV light sources like UV LEDs. It is also sensitive to sunlight or intense daylight and should be handled accordingly, e.g. with light exclusion before application in the printing system. Store the photopolymer in an opaque container at room temperature. If stored under the mentioned conditions, the photopolymer should be used for max. 12 months. For further instructions, please refer to the safety data sheet.

### Product safety

Mandatory and recommended industrial hygiene procedures and the relevant industrial safety precautions must be followed whenever this product is being handled and processed. Product is sensitive to humid environment conditions. For additional information please consult the corresponding material safety data sheets.

### For your information

SolFlex Tech Tough is currently available in transparent. Material is not FDA conform.

### Notice

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed. The safety data given in this publication is for information purposes only and does not constitute a legally binding Material Safety Data Sheet (MSDS). The relevant MSDS can be obtained upon request from your supplier or you may contact W2P directly at [office@way2production.at](mailto:office@way2production.at).

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GENERAL PROPERTIES	Test Method	Values
Critical Exposure, $E_c$		3.9 mJ/cm <sup>2</sup>
Depth of Penetration, $D_p$		9.6 mils
Density	ISO 2811-3	1.12 g/cm <sup>3</sup> / 69.9 lb/ft <sup>3</sup>
Viscosity (at 30 °C)	Cone/plate rheometer <sup>1</sup>	220 - 260 mPas
Viscosity (at 50 °C)		77 - 97 mPas

MECHANICAL PROPERTIES	Test Method	Values
Tensile Strength	ISO 527-2	49 - 62 MPa / 7.1 - 9 ksi
Tensile Modulus	ISO 527-2	1800 - 2270 MPa / 261 - 329 ksi
Tensile Elongation @ break	ISO 527-2	15 - 18 %
Shore D Hardness	ASTM D2240	75 - 85
H Test Shrinkage	N/A	0.71 - 0.77 %
Impact Strength Izod (notched)	ISO 180	3.5 - 4.8 kJ/m <sup>2</sup>

THERMAL PROPERTIES	Test Method	Values
HDT B (0.45 MPa)	ISO 75-2	55 - 59 °C / 131 - 138 °F
Vicat Softening Temperature B (50 N)	ISO 306:2013	58.4 - 60.4 °C / 137 - 141 °F
Glass Transition Temperature, $T_g$		86 - 89 °C

<sup>1</sup> Determined with TA-Instrument DHR rheometer, cone/plate, diameter 60 mm, shear rate 100 s<sup>-1</sup>