Vero™ContactClear

Vero™ContactClear is a transparent, biocompatible PolyJet™ material medically approved for bodily contact. The material is designed for both medical and dental applications and is approved for permanent skin contact (more than 30 days) and limited mucosal membrane contact (up to 24 hours).

Vero™ContactClear has been evaluated and deemed acceptable for the following uses:			
Test	**Standard**		
Cytotoxicity	EN ISO 10993-5:2009		
Irritation	EN ISO 10993-10:2013		
Delayed-type hypersensitivity	EN ISO 10993-10:2013		
Genotoxicity	EN ISO 10993-3:2014		
Chemical characterization	EN ISO 10993-18:2009		
USP Plastic Class VI	USP 34 <88>		
Property	**Standard / Procedure**	**J8 Series Value**	**J55/35 Value**
Tensile Strength	D-638-03	50 – 65 MPa (7,252 – 9,427 psi)	40 – 55 MPa (5,800 – 8,000 psi)
Elongation at Break	D-638-05	10 – 25%	5 – 20%
Modulus of Elasticity	D-638-04	2,000 – 3,000 MPa (290.1 – 435.1 ksi)	2,200 – 3,000 MPa (320,000 – 435,000 psi)
Flexural Strength	D-790-03	75 – 110 Mpa (10,878 – 15,954 psi)	70 – 85 MPa (10,000 – 16,000 psi)
Flexural Modulus	D-790-04	2,200 – 3,200 Mpa (319.1 – 464.1 ksi)	2,000 – 2,500 MPa (290,000 – 365,000 psi)
HDT @ 0.45 MPa	D-648-06	45 – 50 °C (113 – 122 °F)	45 – 50 °C (113 – 122 °F)
HDT @ 1.82 MPa	D-648-07	45 – 50 J/m (113 – 122 °F)	45 – 50 °C (113 – 122 °F)
Izod Notched Impact	D-256-06	20 – 30 (0.37 – 0.56 ft-lb/in)	20 – 30 J/m (0.375 – 0.562 ft-lb/in)
Water Absorption	D-570-98 24HR	1.1 – 1.5%	1.1 – 1.5%
Tg	DMA E	52 – 54 °C (126 – 130 °F)	52 – 54 °C (126 – 129 °F)
Shore Hardness	Scale D	83 – 86 D	83 – 86 (Scale D)
Polymerized Density	ASTM D792	1.17 – 1.18 (g/cm3) (0.676 – 0.682 oz/in3)	1.17 – 1.18 g/cm3
Biocompatibility and Sterilization			
Biocompatibility	ISO 10993-1:2018	• “Surface device” with “long term” (> 30 days) contact to “intact skin” • “Surface device” with “limited” (≤ 24 hours) contact to “mucosal membranes” • “Surface device” with “limited” (≤ 24 hours) contact to “breached or compromised surfaces” • “External communicating device with “limited” (≤ 24 hours) contact to “tissue/bone/dentin” • “Implant device” with “limited” (≤ 24 hours) contact to “tissue/bone”.	
Sterilization Methods	USP <88> USP Plastic Class VI	Gamma sterilization[1] using a dose of 25–50 kGy Steam sterilization[2] for four (4) minutes at 132 °C (270 °F) with fractionated pre-vacuum	

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System Availability	Minimum Layer Thickness Capability	Support Structure	Available Color
J8 Series	Min High speed Mode: 14 microns (0.00055 in.) Super High Speed mode 55 microns (0.002 in.)	SUP705 (water jet removable) SUP706B (soluble)	☐ Transparent
J55™ Prime	18 microns (0.0001 in.)	SUP710 (WaterJet removable)	☐ Transparent
J35™ Pro	18 microns (0.0001 in.)	SUP710 (WaterJet removable)	☐ Transparent

All data provided herein, which is related to consumables, was collected from specific specimens and test conditions and is provided for information only. Characteristics may vary if different specimens and test conditions are applied. Unless expressly provided in writing, no warranties are made and warranties of merchantability or fitness for a particular purpose are expressly disclaimed.

[1] Gamma radiation may result in color change in the part.
[2] Allow the parts to cool down to room temperature before removing them from the autoclave. Flash autoclave may result in part deformations and changes to the flexural strength.

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