

# 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<br>(290.1 – 435.1 ksi)      | 2,200 – 3,000 MPa<br>(320,000 – 435,000 psi) |
| Flexural Strength     | D-790-03             | 75 – 110 Mpa<br>(10,878 – 15,954 psi)         | 70 – 85 MPa (10,000 – 16,000 psi)            |
| Flexural Modulus      | D-790-04             | 2,200 – 3,200 Mpa<br>(319.1 – 464.1 ksi)      | 2,000 – 2,500 MPa<br>(290,000 – 365,000 psi) |
| HDT @ 0.45 MPa        | D-648-06             | 45 – 50 °C<br>(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)<br>(0.676 – 0.682 oz/in3) | 1.17 – 1.18 g/cm3                            |

## Biocompatibility and Sterilization

|                       |                               |                                                                                                                                                                                                                      |
|-----------------------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Biocompatibility      | ISO 10993-1:2018              | <ul style="list-style-type: none"> <li>• “Surface device” with “long term” (&gt; 30 days) contact to “intact skin”</li> <li>• “Surface device” with “limited” (≤ 24 hours) contact to “mucosal membranes”</li> </ul> |
| Sterilization Methods | USP <88> USP Plastic Class VI | Gamma sterilization <sup>1</sup> using a dose of 25–50 kGy Steam sterilization <sup>2</sup> 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:<br>14 microns (0.00055 in.)<br>Super High Speed mode<br>55 microns (0.002 in.) | SUP705 (water jet removable)<br>SUP706B (soluble) | <input type="checkbox"/> Transparent |
| J55™ Prime          | 18 microns<br>(0.0001 in.)                                                                          | SUP710 (WaterJet removable)                       | <input type="checkbox"/> Transparent |
| J35™ Pro            | 18 microns<br>(0.0001 in.)                                                                          | SUP710 (WaterJet removable)                       | <input type="checkbox"/> 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.

<sup>1</sup> Gamma radiation may result in color change in the part.

<sup>2</sup> 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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