



stratasys



MATERIAL DATA SHEET
MEDICAL

Biocompatible Clear

(MED610™, MED610S™, MED610-DSG™)

Biocompatible Clear is a rigid, transparent, biocompatible material. The material is suitable for long-term (more than 30 days) contact to intact skin, limited (up to 24 hours) contact to mucosal-membranes and breached or compromised surface, and limited (up to 24 hours) contact to tissue, bone and dentin. The material is also suitable as a component in external communicating gas pathway devices.

The materials have been evaluated and deemed acceptable for the following biological risks

| Test | Standard |
|-------------------------------------|----------------------|
| Cytotoxicity | EN ISO 10993-5:2009 |
| Irritation | EN ISO 10993-10:2021 |
| Delayed-type hypersensitivity | EN ISO 10993-10:2023 |
| Pyrogenicity | EN ISO 10993-11:2018 |
| Chemical characterization | EN ISO 10993-18:2020 |
| USP Plastic Class VI | USP 34 <88> |
| External communicating gas pathways | EN ISO 18562-1:2017 |

| Property | Standard / Procedure | Objet/J7/J8 Series™ | J5 Medi.Jet® / J5 Digital Anatomy™ |
|-----------------------|----------------------|--|---|
| 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 (290,000 - 435,000 psi) | 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 (320,000 - 465,000 psi) | 2,000 - 2,500 MPa (290,000 - 365,000 psi) |
| HDT, °C @ 0.45MPa | D-648-06 | 45 - 50 °C (113 - 122 °F) | 45 - 50 °C (113 - 122 °F) |
| HDT, °C @ 1.82MPa | D-648-07 | 45 - 50 J/m (113 - 122 °F)W | 45 - 50 °C (113 - 122 °F) |
| Izod Notched Impact | D-256-06 | 20 - 30 (0.37 - 0.56 ft-lb/in)w | 20 - 30 (0.37 - 0.56 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 (Scale 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) (0.676 - 0.682 oz/in³) |
| Biocompatibility | ISO 10993-1:2017 | <ul style="list-style-type: none"> Skin contact - permanent (>30 days) Mucous membrane - short term (up to 24 hours) Tissue and bone - short term (up to 24 hours) | |
| | ISO 18562-1:2017 | Component in external communicating gas pathway devices | |
| Sterilization Methods | | <ul style="list-style-type: none"> Gamma sterilization¹ using a dose of 25-50 kGy Steam sterilization² for four (4) minutes at 132 °C (270 °F) with fractionated pre-vacuum EtO sterilization³ using 740mg EtO /l/6h exposure VHP by Steris V-PRO maX 2 Specialty E Cycle | <ul style="list-style-type: none"> Gamma sterilization¹ using a dose of 25-50 kGy Steam sterilization² for four (4) minutes at 132 °C (270 °F) with fractionated pre-vacuum EtO sterilization³ using 740mg EtO /l/6h exposure |



| System Availability | Layer Thickness Capability | Support Structure | Available Colors |
|--|---|---|------------------|
| Objet260/350/500™ Connex3 | 16 microns (0.0006 in.) | SUP705B™ (Waterjet removable) SUP706B (soluble) | Transparent |
| J735/J750 | High Mix or High Speed mode: 27 microns (0.0011 in.) High Quality mode: 14 microns (0.00055 in.) | SUP705B™ (Waterjet removable) SUP706B™ (soluble) | Transparent |
| J750 Digital Anatomy™ J850 Digital Anatomy™ | High Mix or High Speed mode: 27 microns (0.0011 in.) High Quality mode: 14 microns (0.00055 in.) | SUP705B™ (Waterjet removable) SUP706B™ (soluble) GelMatrix™ (waterJet removable) ⁴ | Transparent |
| J5 MediJet® | High Quality mode: 18 microns (0.0007 in) | SUP710S™ (Waterjet removable) WSS™ 150 (water soluble) ⁴ | Transparent |
| J5 Digital Anatomy™ | 14 microns (0.00055 in.) 18 microns (0.0007 in) | SUP710™ (Waterjet removable) WSS™ 150 (water soluble) ⁴ GelMatrix™ (waterJet removable) ⁴ | 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.

³ EtO process full parameters: 740mg EtO /l/6h exposure /45C/40-90%RH/ degassing 48h-96h/ up to 2 cycles

⁴ Biocompatible Clear was not tested for biocompatibility with this support material.

For additional information about biological and toxicological assessment and the approved sterilization processes, refer to the [Biocompatible page in Stratasys support center](#).



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ISO 9001:2015 Certified

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