

3M Filtek™ Z250 Universal Restorative Dental Composite

Category : Polymer , Thermoset , Methacrylate

Material Notes:

3M™ Filtek™ Z250 universal restorative is an esthetic, light cured, radiopaque composite specifically designed for use in anterior or posterior direct or indirect restorations. Bonding to tooth structure is accomplished by using a dental adhesive system, such as 3M™ Single Bond or 3M™ Scotchbond Multi-Purpose Adhesive Systems. The restorative is available in a variety of shades and is packaged in traditional syringes and single dose capsules. The matrix of this composite is a resin consisting of BIS-GMA (Bisphenol A diglycidyl ether dimethacrylate), UDMA (urethane dimethacrylate), and Bis-EMA (Bisphenol A polyethylene glycol diether dimethacrylate). This light-cured resin is filled with 60% (volume) silica/zirconia. The filler particle size distribution is 0.01 µm to 3.5 µm with an average particle size of 0.6 µm. Filtek™ Z250 exhibits about 18% less volumetric shrinkage upon curing than 3M™ Z100™. An example from the manufacturer shows shrinkage of 2.0% after 5 minutes and 2.2% after 30 minutes; sample geometry will effect actual values. Wet fracture toughness is 1.5 MN/m. The wear rate in an in-vitro 3-body wear test gives 3.6 µLoss/39,000 cycles. Information provided by 3M. Contact 3M for further information before specifying or using this product.

Order this product through the following link:

http://www.lookpolymers.com/polymer_3M-Filtek-Z250-Universal-Restorative-Dental-Composite.php

Physical Properties	Metric	English	Comments
Viscosity	3.50e+7 cP	3.50e+7 cP	target viscosity before cure

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	85.0 MPa	12300 psi	Diametral tensile strength
Flexural Yield Strength	155 MPa	22500 psi	
Flexural Modulus	11.0 GPa	1600 ksi	
Compressive Yield Strength	405 MPa	58700 psi	
Adhesive Bond Strength	24.0 MPa	3480 psi	for 2.5 mm increment. Bond strength to dentin using 3M Single Bond adhesive; C2 color

Processing Properties	Metric	English	Comments
Processing Temperature	20.0 °C	68.0 °F	Light cured

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