



## Valiant Ultra™

# The clear choice in clear packaging applications.

### PRODUCT DESCRIPTION

Valiant Ultra™ from Spartech is an ultra-clear packaging material designed for healthcare applications. It provides excellent impact strength and durability to meet the most demanding requirements, including heat-resistance properties higher than PETG.

The optical characteristics Valiant Ultra™ meets are superlative so medical devices and diagnostic kit components are easy to see through this ultra-clear packaging. It is EtO and Gamma sterilizable *without* the discoloration common to PET packaging.

Spartech is focused on shaping the future of plastic packaging through material strength and application expertise. That is why we designed Valiant Ultra™ as a more economical alternative to PETG, better aesthetically than sterilized PET, and more environmentally friendly alternative to PVC.

Your products will be protected yet visible when your packaging takes advantage of the ultra-clear, high-performance characteristics of Valiant Ultra™.

### TARGET MARKETS AND APPLICATIONS

Valiant Ultra™ is a great choice for a wide range of applications and market segments including:

#### Medical Device Trays & Kits

- Surgical instrumentation
- Orthopedic implants
- Combination devices

#### Diagnostic Kits

- Point-of-care testing
- Laboratory consumables

#### Pharmaceuticals

- Packaging

### KEY CHARACTERISTICS

- Ultra clear even when sterilized
- Challenging environments are no match for this high-performance resin
- Safeguard products with strong structural formulations

TECHNICAL PROPERTIES		
<b>OPTICAL</b>		
Refractive Index	1.580	
Hunter _b (blue)	-13.1	
Haze (%)	5.2	
<b>MECHANICAL PROPERTIES</b>	<b>TEST METHOD</b>	<b>TYPICAL VALUE</b>
Notched Izod	ASTM D256	0.402 ft-lbs/in
Unnotched Izod	ASTM D256	6.692 ft-lbs/in
Tensile Yields	ASTM D638	4,793 psi
Yield Elongation	ASTM D638	3.1
Tensile Modulus	ASTM D638	233.7 kpsi
Flexural Yield	ASTM D790	7,653 psi
Flexural Modulus	ASTM D790	236.4 kpsi
Heat Distortion (°F @ 66psi)	ASTM D648	166
Vicat Softening	ASTM D1525	191
<b>APPROVALS</b>		
FDA Food Packaging Regulation 21CFR 177.1640. Meets the requirements of the U.S. Pharmacopoeia XXII Class.		
<b>DENSITY</b>	<b>TYPICAL VALUE</b>	
Valiant Ultra	1.01 gm per cm(3)	

**Disclaimer:** The values shown above are representative of values that have been obtained in the testing of sheet samples of Valiant Ultra™ produced in various colors. Colorants and materials added to provide visual effects can alter some values. Each user of the material should conduct his own testing and evaluations to determine the effectiveness, safety, and suitability of the material for its particular use, specifically to include testing of prototype parts in their intended end use.

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