

## 99454A-WC, 99454B-WC, 99454BB-WC & 99454C-WC Axcelis® GSD HC, HE & VHE Bushings



**PN 99454A-WC** - OEM: 17174960

Source Bushing, Non RoHS Compliant, Lead-Oxide Filled, Orange

*Specifically designed for high voltage insulator applications requiring x-ray shielding. Provides good electrical grade insulation properties and superior arc resistance to lead oxide filled epoxies. This bushing is susceptible to handling damage as the epoxy is more brittle than bushing 99454B. **Meets all shielding requirements for a GSD High Current Implanter.***



**PN 99454B-WC** - OEM: 17322400

Source Bushing, RoHS Compliant, Track Resistant, Non-Leaded, Shielded, Red

*Specifically designed for high voltage insulator applications requiring x-ray shielding. The outer layer is made of castable, lead free insulating grade, filled epoxy resin specifically designed for high voltage insulator applications requiring X-Ray shielding. This material provides good electrical grade insulation properties, high mechanical properties, and superior arc resistance to any lead oxide filled epoxy. This material has equal x-ray shielding to a 25% lead oxide filled epoxy. This material is non-flammable and meets UL94V-0 requirements.*



**PN 99454BB-WC** - OEM: 170093550

Source Bushing, RoHS Compliant, Multi-Compound, with X-Ray Shielding, Tile Red

*Multi-layer bushing with inner walls made of track resistant material. This material provides excellent electrical grade insulation properties and chemical resistance, and will not char when exposed to a high voltage arc. The outer layer is made of castable, lead free insulating grade, filled epoxy resin specifically designed for high voltage insulator applications requiring X-Ray shielding. This material provides good electrical grade insulation properties, high mechanical properties, and superior arc resistance to any lead oxide filled epoxy. This material has equal x-ray shielding to a 25% lead oxide filled epoxy. This material is non-flammable and meets UL94V-0 requirements. This updated bushing has improved durability over previous materials.*



**PN 99454C-WC** - OEM: 17174960 REF

Source Bushing, RoHS Compliant, Track Resistant, Non-Leaded, Non-Shielded, Red  
Not compatible with GSD HC.

*Track resistant epoxy resin specifically designed for high temperature, high voltage insulator applications. This material provides excellent electrical grade insulation properties and chemical resistance, and will not char when exposed to a high voltage arc. This updated bushing has improved durability over previous materials.*

**Suitable for use in GSD HE and VHE implanters ONLY.**

**\* Stress dissipation rings are no longer recommended and will not be supplied.**

Properties	99454A-WC Data	99454B-WC Data	99454BB-WC Data	99454C-WC Data
Specific Gravity	-	1.8	-	1.8
Tensile Strength	-	9,000 PSI	5,000 PSI	9,000 PSI
Flexural Strength	-	9,000 PSI	8,000 PSI	9,000 PSI
Compression Strength	-	15,000 PSI	15,000 PSI	15,000 PSI
Elastic Modulus	-	1.0 MSI	1.4 MSI	1.0 MSI
Thermal Expansion	-	18 X 10-6 In / In / °F	20 X 10-6 In / In / °F	18 X 10-6 In / In / °F
Dielectric Strength	-	475 V/Mil	260 V/Mil	475 V/Mil
Arc Resistance	-	(No Track), 200 Sec+	125 Sec	(No Track), 200 Sec+
Dielectric Constant	-	5.2 @ 60 Hz	8.5 @ 1 kHz	5.2 @ 60 Hz
Dissipation Factor	-	.030 @ 60 Hz	.009 @ 1 kHz	.030 @ 60 Hz
Volume Resistivity @ 77°F	-	1 x 10 <sup>16</sup> ohms / cm	-	1 x 10 <sup>16</sup> ohms / cm
Water Absorption	-	.005%	-	.005%
Heat Distortion Temperature	-	320 °F	220 °F	320 °F
Thermal Conductivity	-	.8 Watt / Meter x K	.8 Watt / Meter x K	.8 Watt / Meter x K
Density	-	-	.114 lb / Cu In	-
X-Ray Shielding Effectiveness	Lead Shielded	-	25% of Lead	-
Outgassing (ASTM E595 - TML)	-	-	.21%	-
Outgassing (ASTM E595 - CVM)	-	-	.01%	-
Outgassing (ASTM E595 - WVR)	-	-	.11%	-