



## Resilience™ HC for Medical Device Housings Offering Improved Resistance to Hospital Disinfectants

According to the U.S. Public Health Service, the incidence of hospital-acquired infections (HAI's), such as MRSA and VRE, has increased approximately 36% in the last 20 years and today causes nearly 100,000 deaths annually. Because insurance companies and Medicare will no longer reimburse the costs associated with HAI's, the financial burden, estimated at \$14,000 per infection, falls on the patient or hospital. To cope with this challenge, hospitals are cleaning medical devices more frequently and with harsher disinfectants than ever before. A recent Mayo Clinic study confirmed this increased frequency of disinfection of hospital surfaces substantially reduces infection rates.

### EFFECT ON POLYMER HOUSINGS FOR MEDICAL DEVICES

Unfortunately, the increased disinfection practices among healthcare providers have another effect. Rigid polymers typically used to make housings for medical devices are failing to resist these chemicals. They crack and craze under the onslaught, which in turn, could cause the device to fail in as little as a few weeks. The consequences to the medical device manufacturer could include increases in:

- Service calls to repair damaged devices
- Warranty claims on damaged devices
- Product returns of damaged devices

### TYPICAL APPLICATIONS

Below are just a few examples of the many types of medical devices protected by rigid polymer housings and frequently cleaned with harsh disinfectants to fight HAI's. These medical devices could benefit from the excellent chemical resistance found with Resilience™ HC Rigid Molding Materials.

- Barcode Scanners
- Blood Pressure Monitors
- Defibrillators
- Infusion Pumps
- Ventilators



## RESILIENCE™ HC OUTPERFORMS COMPETING POLYMERS

Design engineers are increasingly looking more frequently for better chemical resistance properties in rigid device housings to combat the effects of disinfectants. PolyOne conducted a comparative study of polymer resistance to three common, harsh disinfectant chemistries. As shown in the tables below, PolyOne materials such as Resilience™ HC Rigid Molding Materials can offer improved resistance to cracking from disinfectants. When this improved chemical resistance is combined with excellent melt flow, flame resistance, UV resistance, and appearance, it's easy to see why Resilience™ HC Rigid Molding Materials are becoming the materials of choice for rigid medical device housings.

### PROPERTY RETENTION OF POLYMERS AFTER EXPOSURE TO HOSPITAL DISINFECTANTS

Tensile Stress at Break Charts\*

	<b>T-Spray™ (quaternary ammonium)</b>	<b>CavidCide® (Isopropanol)</b>	<b>Cidex Plus® (Glutaraldehyde)</b>
<b>Acceptable 90-100%</b>	Resilience HC	Resilience HC	Resilience HC
<b>Marginal 50-90%</b>	PC+PBT	PC+PBT PC+ABS PC+PET	PC+PBT
<b>Poor &lt;50%</b>		ABS	ABS
<b>Cracked</b>	ABS PC+ABS PC+PET		PC+ABS PC+PET

\* Property retention after 3 days of continuous exposure to disinfectant.

Product choices often vary by region due to differences in regulatory and agency requirements, availability and other key factors. Please contact your nearest sales office for assistance in choosing the right solution for your locale.

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