# TempRite® LC88029

Low Combustibility Custom Injection Molding Material

TempRite® Products

PRODUCT DATA SHEET

***HEAT*** **Chemical Resistance** **Flame&Smoke** ***Agency Listings***

The unique performance advantages of Chlorinated Poly-Vinyl Chloride (CPVC) are available for processing on conventional vinyl extrusion equipment with TempRite LC compounds exclusively from Lubrizol, the world leader in CPVC markets and technology.

Advances in CPVC injection molding material technology now allow cost effective replacement of expensive engineering resins, and value added substitution where commodity thermoplastics do not perform. LC88029 is ideally suited for applications in regulated environments that specify materials with low combustion and high smoke suppression. Class 1 or A flame and smoke performance, mechanical property retention at elevated temperature, and broad chemical resistance make CPVC a uniquely performing engineering thermoplastic.

Lubrizol's technical center offers a full range of design, engineering, technical support services, and on-site processing assistance to shorten the application development cycle and accelerate commercialization. Sales offices in 11 worldwide locations offer unequaled service and support.

TempRite® LC88029 is made to order in white and is available directly from Lubrizol's global distribution network. Custom colors are also available. Packaging options include boxes and bulk shipment.

| | END USE BENEFIT | PROCESSING BENEFIT |
|---|---|---|
| **MATERIAL PERFORMANCE** | • Class 1 or A flame and smoke performance (E-84 Steiner tunnel flame spread < 25, smoke developed < 450) for regulated environments.<br>• Broad chemical resistance for use in corrosive environments, for example, in presence of strong acids and bases.<br>• Mechanical property retention and dimensional stability at elevated service temperatures. | • Good melt flow index for low cycle times in complex parts.<br>• Reduced shear sensitivity promotes a longer run life.<br>• Suitable for common secondary operations such as machining and painting. |
| **COST** | • Improved processing in complex parts reduces cycle times and scrap rates.<br>• Suited to tooling designed for good-practice molding of most amorphous thermoplastics. | • Enhanced flow and processing stability for greater tool life.<br>• Post-processor recyclable for efficient material usage. |
| **QUALITY** | • Improved processability produces consistent looking parts.<br>• Smooth and polished finish for a high quality appearance part. | • Wide processing window produces high quality looking parts consistently.<br>• Improved flow characteristics for high quality knit lines and better surface appearance. |

**PROPERTY TABLE ON REVERSE SIDE**

June 4, 2007



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| PROPERTY | TEST METHOD | TYPICAL VALUES FOR TESTED LOTS<br>LC88029 | <br>UNITS |
|---|---|---|---|
| FLAMMABILITY | | | |
| Steiner tunnel | | | |
| 0.125” (3 mm) Flame spread index | ASTM E-84 | 15 | |
| 0.125” (3 mm) Smoke developed index | ASTM E-84 | 360 | |
| 0.040” (1 mm) Flame spread index | ASTM E-84 | 5 | |
| 0.040” (1 mm) Smoke developed index | ASTM E-84 | 45 | |
| THERMAL | | | |
| Heat deflection under load | ASTM D-648 | 185 | °F |
| 264 psi, 1/8” bar annealed | | 85 | °C |
| Vicat softening, method B (1kg) | ASTM D-1525 | 207 | °F |
| | | 97 | °C |
| Coefficient of thermal expansion | ASTM D-696 | 3.8 | $x10^{-5}$in/in-°F |
| 1/8” bar, -30 to +30°C | | 6.8 | $x10^{-5}$cm/cm-°C |
| MECHANICAL | ASTM D-638 | 7,200 | psi |
| Tensile strength (73°F / 23°C) | | 50 | MPa |
| At yield | ASTM D-638 | 470,000 | psi |
| Tensile modulus (73°F / 23°C) | | 3,250 | MPa |
| | ASTM D-790 | 13,400 | psi |
| Flexural strength (73°F / 23°C) | | 92 | MPa |
| | ASTM D-790 | 455,000 | psi |
| Flexural modulus (73°F / 23°C) | | 3,140 | MPa |
| Hardness, Rockwell R | ASTM D-785 | 112 | |
| IMPACT | | | |
| Notched izod | ASTM D-256 | 1.0 | ft-lb/in |
| 1/8” bar @ 73°F | | 53 | J/m |
| PHYSICAL | | | |
| Specific gravity | ASTM D-792 | | |
| White 170 | | 1.52 | |