



COMPOUND DATA SHEET

IC4728B

EPDM COMPOUND FOR INSULATION FOR MEDIUM and HIGH VOLTAGE POWER CABLE

IC4728B is an orange pelletized, crosslinkable EPDM insulation compound developed for use in medium and high voltage power cables rated for 105° C/140°C conductor temperature.

IC4728B was designed for use with Indianapolis Compound's strippable or bonded insulation shields — IC571E, IC567A, IC766B.

IC4728B was developed for use in cables manufactured to the following specifications:

ASTM D 2802

AEIC CS8-2000

ICEA S-94-649

ICEA/ANSI S-93-639

ICEA/ANSI S-97-682

ICEA S-68-516/ NEMA WC 8, Type III

UL 1072

UL 44: RH, RHH, RHW, RHW-2

CAN/CSA-C68.3-97

The information contained herein is offered for your consideration and use. It is not to be construed as a warranty or representation of fitness for use, and expressly is not intended to give permission or recommendation to practice a patented invention without a license. Indianapolis Compounds may be consulted for recommendations for specific processing conditions when the intended application and equipment have been determined.

Typical Physical Properties on Plaque

| <u>Property</u> | <u>Typical Value</u> | <u>Units</u> | <u>Test Method</u> |
|---|----------------------|---|--------------------|
| Specific Gravity, 23°C | 1.15 | | ASTM D 792 |
| Tensile Strength | 2000 (13.8) | psi (MPa) | ASTM D 412 |
| Elongation | 300 | % | |
| Retained Tensile Strength, Aged 7 days at 121°C | 95 | % of Orig. | ASTM D 638 |
| Aged 7 days at 140°C | 90 | % of Orig. | |
| Retained Elongation, Aged 7 days at 121°C | 95 | % of Orig. | |
| Aged 7 days at 140°C | 90 | % of Orig. | |
| Hot Creep, 150°C | | | ICEA T-28-562 |
| Elongation | 15 | % | |
| Set | 1 | % | |
| Low Temperature Brittleness Point, F ₅₀ | - 40 | °C | ASTM D 746 |
| Heat Deformation, 1 hour at 121°C | 5 | % | ICEA T-27-581 |
| Gravimetric Water Absorption Aged 7 days at 70°C | 1.1 (0.002) | mg/in ² (mg/mm ²) | |
| Durometer Hardness | 90 | Shore A | ASTM D 2240 |

Typical Physical Properties on Wire*

| <u>Property</u> | <u>Typical Value</u> | <u>Units</u> | <u>Test Method</u> |
|------------------|----------------------|--------------|---------------------|
| Tensile Strength | 1700 (11.7) | psi (MPa) | ASTM D 638 |
| Elongation | 350 | % | |
| Ozone Resistance | Pass | No Cracks | ICEA S-19-81, p.6.8 |

*Wire tested: 14 AWG solid, 0.045" wall, steam cure.

Typical Electrical Properties on Wire*

| <u>Property</u> | <u>Typical Value</u> | <u>Units</u> | <u>Test Method</u> |
|-----------------------------------|----------------------|---------------------|--------------------|
| | | | ICEA S-68-516 |
| Dielectric Constant, 60 Hz | 2.8 | | |
| Power Factor | | | |
| 25°C | 0.3 | % | |
| 90°C | 0.5 | % | |
| IRK, 23°C | 150,000 (46,000) | MΩ-1000ft (GΩ-m) | |
| SIC Increase at 75°C | | | |
| 1-14 days | 0.5 | % | |
| 7-14 days | 0.5 | % | |
| SIC Increase at 90°C | | | |
| 1-14 days | 0.5 | % | |
| 7-14 days | 0.5 | % | |
| Stability Factor | | | |
| 75°C | 0.30 | | |
| 90°C | 0.10 | | |
| Alternate Stability Factor | | | |
| 75°C | -0.50 | | |
| 90°C | -0.10 | | |

*Wire tested: 14 AWG solid, 0.045" wall, steam cure.

Process Parameters

The following process parameters are offered as a starting point, however adjustments may be needed to optimize **IC4728B** depending upon equipment and cable design. A minimum 15:1 L/D extruder is recommended. Indianapolis Compounds can provide assistance in designing an extruder screw to optimize processability of **IC4728B**.

| Extruder Temperature Profile | | |
|-------------------------------------|-----------|--------|
| Zone 1 & 2 | 240° F | 116° C |
| Zone 3 & 4 | 245° F | 118° C |
| Die & Head | 220° F | 105° C |
| Screw Cooling | 150° F | 65° C |
| Screen Pack | 20/40Mesh | |

Packaging

- BULK BOX Heavy-duty gaylord box.
- LINER Polyethylene, 4 mils (0.1 mm)
- NOTE Compound can be supplied in intermediate bulk containers, (IBC bags).

Handling/Storage

Product should be stored below 95°F (35°C) to avoid blocking. The use of box covers while unloading, and a pneumatic unload system equipped with pre-filters is recommended to maintain product cleanliness. Boxes can be stacked three high for storage. Bulk handling or storage is not recommended.

Environmental

- HANDLING Under normal conditions of use, there are no known hazards associated with handling **IC4728B**. The pelletized form of this product minimizes exposure to dust or mists.
- DISPOSAL Deposit in waste containers and landfill in accordance with all governmental laws and regulations.

For further information contact:

Indianapolis Compounds™
7950 Rockville Road, Indianapolis, IN 46214
Phone: (317) 273-2908 • Fax: (317) 273-1531