

**Product:** Genflam® OH-1  
**Gendon Code:** 2142 (Black)  
 2368 (Red)  
 2392 (Natural)  
 2394 (White)



**Revision Date:** Sept 24, 2019

Genflam® OH-1 series of thermoplastic flame retardant low smoke zero halogen (LSZH) compounds are designed to provide the wire and cable industry with a jacketing/insulation material for demanding applications. This unique formulation provides a good balance of physical, chemical, and low temperature properties for superior performance in demanding applications. The material is also designed for ease of processing, allowing for maximum extruder outputs while minimizing manufacturing costs. The Genflam OH-1 series (Black and Natural) has also been included into the UL2885 Bulletin as an approved Halogen Free material. Products utilizing the Genflam OH-1 Black, and the Genflam OH-1 Natural with approved color concentrates can be identified with the optional -HF marking in the UL Legend.

**Key Features:**

- High flame retardancy
- Excellent processing
- No heavy metals or halogens – UL2885 compliant
- Colorable
- UV stabilized
- RoHS and REACH compliant

**Physical Properties:**

|                          |                              |             |           |
|--------------------------|------------------------------|-------------|-----------|
| Density:                 | 1.53 g/cm <sup>3</sup>       |             |           |
| Tensile:                 | 2000 psi (typical)           |             |           |
| Elongation:              | 225% (typical)               |             |           |
| Tear:                    | 40 lbf/in (typical)          |             |           |
| Durometer:               | 95 Shore A                   |             |           |
| Low Temp. Brittle Point: | -53°C                        |             |           |
| Deformation, 2000g:      | 49.0%@121°C                  | 32.2%@100°C | 7.5%@90°C |
| Halogen Content:         | -HF Listed<br>(Halogen Free) |             |           |

**Combustion Properties:**

|   |                 |                  |
|---|-----------------|------------------|
| Limited Oxygen Index (LOI):                             | 37%             |                  |
| Acid Gas:   | 0.2%            |                  |
| Smoke Index (ASTM E662):                                | D <sub>s4</sub> | D <sub>m20</sub> |
| • Flaming   | 0               | 101              |
| • Non-Flaming   | 15              | 416              |
| Cone Calorimeter (ASTM E1354):                          |                 |                  |
| • Time to Ignition (s)                                  | 51              |                  |
| • Peak Heat Release (kW/m <sup>2</sup> )                | 190             |                  |
| • Time to Peak Heat Release (s)                         | 275             |                  |
| • Total Smoke Release (m <sup>2</sup> /m <sup>2</sup> ) | 471             |                  |

**Heat Aging:**

|                      | 7d@100°C | 7d@121°C | 10d@110°C | 30d@110°C | 70d@110°C |
|----------------------|----------|----------|-----------|-----------|-----------|
| Tensile Retention    | 103%     | 98%      | 108%      | 100%      | 106%      |
| Elongation Retention | 88%      | 76%      | 91%       | 80%       | 76%       |

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**Fluid Resistance:**

|                      | IRM 902 - 4h@70°C | Diesel - 24h@25°C | IPA - 24h@23°C |
|----------------------|-------------------|-------------------|----------------|
| Tensile Retention    | 73%               | 56%               | 99%            |
| Elongation Retention | 97%               | 62%               | 102%           |

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**Weathering:**

|                      | 720 Hours under QUV Testing |
|----------------------|-----------------------------|
| Tensile Retention    | 101%                        |
| Elongation Retention | 87%                         |

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**Suggested Running Conditions:**

|                   |  |                    |                      |              |                 |
|-------------------|--|--------------------|----------------------|--------------|-----------------|
| Extruder L/D:     | 20:1 or 24:1                                   | Comp. Ratio:       | 1.25:1               | Screen Pack: | 20 Mesh or none |
| Screw Type:       | Single Flight metering, without mixing section |                    |                      |              |                 |
| Feed Zone:        | 250°F  | Center Zone:       | 300-340°F            | Head/Die:    | 340°F           |
| Screw Cooling:    | 165°F  | Die Cooling:       | Not recommended      |              |                 |
| Gradient Cooling: | Not recommended                                | Color Concentrate: | EVA Binder preferred |              |                 |

**Processing Techniques:**

The Genflam OH-1 series has been designed to process easily on standard extruders used in the production of wire and cable products. These materials are designed to process similar to elastomeric compounds, attaining maximum output levels at relatively low shear rates. Care should be taken to ensure that screw compression ratio levels are below 1.5:1, and flow restrictions in the crosshead are kept to a minimum. Melt temperature values above 370°F (185°C) should be avoided. The material can be extruded using either pressure or sleeving techniques. For generation of optimum physical properties, a draw down ratio of 1.25:1 can be used. All materials are supplied as free flowing pellets, packaged in sealed foil lined boxes and do not need to be dried prior to use. It is recommended that the foil liners be resealed after use to prevent outside contamination or water absorption during storage. If the material has been exposed to a high humidity environment, or the foil liner has not been sealed, it is recommended the material be dried for a minimum of 4 hours at 140°F (60°C) in a standard desiccant style dryer prior to use.

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