



ROGER TECHNOLOGIES LIMITED

TECHNICAL DATA SHEET

Halogen Free Low Smoke Flame Retardant Compound (HFFR/ZHFR/LSZH)

Product Description: R-ZHFR-3205 is a thermoplastic RoHS Compliance, Halogen Free, Flame Retardant, UV resistance Low Smoke, moisture resistance (HFFR/LSZH) cable compound. It combines low smoke density with very good flame retardancy. The compound is based on Non-toxic and Non corrosive elements and it has excellent mechanical & electrical properties.

Specifications: The cables manufactured with R-ZHFR-3205 is meets the following specifications;

* IEC 332-1 / IEC 332-2, * BS 7655: Section 6.1, * IS 17048, * VDE 0207 PART 24 HM2 & HM4, * EN 50363-7:2005, * 3m³ smoke density chamber test to IEC 61034-2, BS EN 50290-2-27 for type HM2 and HD 604 for type HM4 & GR TEC 89010:2021

Applications : R-ZHFR-3205 is intended for Insulation and Sheathing for Building Wires & data cables. It can also be used in areas to low smoke /low corrosive and low toxic combustion products.

Technical Parameters :

Sr. no.	Parameter	Test Method	Unit	Typical Value
01	Density	ASTM D 792	gm/cc	1.48
02	Melt Flow Index (160°C/21.6 kg)	ASTM D 1238	gm/10 minute	6
03	Tensile Strength at Break	ASTM D 638	Mpa(N/mm ²)	12
04	Elongation at Break	ASTM D 638	%	180
05	Tensile Strength after ageing for 7 days at 100°C	ASTM D 638	%	+ 12
06	Elongation after ageing for 7 days at 100°C	ASTM D 638	%	- 15
07	Hardness	ASTM D 2240	Shore-D	50
08	Limiting Oxygen Index (LOI)	ASTM D 2863	%	32
09	Temperature Index	ASTM D 2863	°C	>270
10	Smoke Density	ASTM D 2843	%	<10
11	HCl & HBr gas generation	IEC 60754-1	%	<0.2
12	Volume Resistivity	ASTM D 257	Ohm-cm	1.1 x 10 ¹⁵
13	pH	IEC 60754-2	pH	> 5
14	Conductivity	IEC 60754-2	Micro s/mm	< 7
15	Ozone resistance test	IS 10810-13	---	Passed
16	Water immersion test at 70°C @7days	IS 17048(5.13)	--	Passed
	Variation in tensile strength		%	-20
	Variation in elongation at break		%	-23

*Mechanical properties on 1 mm extruded tape



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Colorability:

R-ZHFR-3205 is available in natural color, but it is colourable compound with EVA/PE base color master batch.

Shipment:

R-ZHFR-3205 is supplied in the form of free-flowing granules in 25 kg moisture proof poly bags or 860 kg in octagon.

Processing Guidelines:

- R-ZHFR-3205 can be processed using low C/R screw instead of regular PE extruder. The actual temperature profile for extrusion will depend on the machine characteristics but the following can be taken as a guideline; Temperature Profile: 130-140-150-155-160-165°C
- To obtain smooth and glossy cable surface, it is recommended for pre-drying at 70°C for 2 to 4 hours.

Storage and Handling:

- The material should be stored to prevent a direct exposure to sunlight and/or heat.
- The storage area should also be dry and preferably don't exceed 50°C. RTL would not give warranty to bad storage conditions which may lead to quality deterioration such as color change, bad smell and inadequate product performance.
- It is advisable to process goods within 1 year from the date of manufacturing.