



ROGER TECHNOLOGIES LIMITED

TECHNICAL DATA SHEET

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

Product Description: R-ZHFR-3205 HS 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 HS 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 HS is intended for HIGH SPEED Insulation **Tight Fiber**, housing 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	1.46
02	Melt Flow Index (160°C/21.6 kg)	ASTM D 1238	gm/10 minute	10
03	Tensile Strength at Break	ASTM D 638	Mpa(N/mm ²)	10
04	Elongation at Break	ASTM D 638	%	175
05	Tensile Strength after ageing for 7 days at 80°C	ASTM D 638	%	+ 10
06	Elongation after ageing for 7 days at 80°C	ASTM D 638	%	- 14
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	HF Content	IS 17048(5.7)A 4	%	Nil
17	Cold bend test (-15°C @ 3 hrs)	IS 10810-20	No cracks	Passed
18	Hot deformation test 80°C @ 4 hrs	IS 10810-15	%	23

***Mechanical properties on 1 mm extruded tap**



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Colorability:

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

Shipment:

R-ZHFR-3205HS 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-3205HS 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.