



## ECCOH™ Specialty Solutions Help Cable Manufacturers Meet New CPR Standards

PolyOne has developed a range of ECCOH™ non-halogen, flame retardant solutions to enable manufacturers to meet the CPR (Construction Product Regulations) standards set out by the newly harmonized European Standard, EN13501. ECCOH compounds are highly flame retardant and non-halogenated. During a fire, they are formulated to have no corrosive gas or toxic fume emissions, and to generate a low amount of smoke. This means that these materials can help to meet the highly demanding Euroclass designations—Class B2ca and Cca—and also are suitable for other classes such as Dca or Eca.

### KEY CHARACTERISTICS

- **Highly flame retardant:** Flame retardancy helps prevent fire and to limit damage if one starts
- **Non-halogenated:** During a fire, there are no ingredients to cause acidic gas emissions from the polymer, which can damage equipment and buildings

- **Low smoke:** In the event of fire, people are more able to find the escape exit and fire fighters can quickly find the source of the fire
- **Low toxicity:** People are not likely to be overcome by toxic fumes
- **Low dripping:** No flaming droplets are likely to propagate a fire or injure evacuees
- **Manufacturing efficiency:** Easy processing with a smooth surface finish

### MARKETS AND APPLICATIONS

The harmonized European Standard EN13501 lists the fire classification of construction products and building elements. Part 6 of this Standard outlines the classification for electric cables using data from reaction to fire tests. Given the proper cable design, the ECCOH range of specialty polymers will help manufacturers meet CPR requirements for all power, control and communication cables (including optical fiber cables) used in buildings.

## ECCOH™ GRADES FOR CPR

APPLICATIONS	GRADES	MFR (150C/ 21.6kg)	TS (MPa)	EB (%)	LOI (%)	CPR* (Class Performance Indication)	COMMENTS
LAN/coaxial sheathing	5549 LM	3.0	11.0	160	45	B2	Excellent flame retardancy, best in class in char formation with very low dripping and low heat release.
LAN/coaxial sheathing	5549/1	3.0	12.0	170	45	B2	Excellent flame retardancy and low heat release. Enhanced knife penetration.
LAN/coaxial sheathing	5865	4.0	12.0	180	42	C	Very good flame retardancy and easy processing.
LAN/coaxial sheathing	5836	9.5	12.0	140	37	D	Easy processing with low die drool performance.
LAN sheathing (patch cord)	5943	6.0	11.0	220	32	D	Very good flexibility with easy processability.
Optical fiber sheathing	5549 LM	3.0	11.0	160	45	B2	Excellent flame retardancy, best in class in char formation with very low dripping and low heat release.
Optical fiber sheathing	5702 SEPAP	8.0	10.5	140	47	C	Specially formulated for optical fiber applications where the SEPAP UV test is required. Also, has a very low coefficient of friction for easy installation, excellent flame retardancy and char formation.
Optical fiber sheathing	5924 UV	3.9	11.5	170	39	D	Medium char formation, high flame retardancy, UV resistance and good ESCR for armored cable.
Optical fiber sheathing	5501 UV	11.0	11.5	170	35	D	Easy processing and enhanced UV resistance.
Tube for optical fiber	5549/1	3.0	12.0	170	45	B2	Excellent flame retardancy and low heat release. Enhanced knife penetration.
Tube for optical fiber	5995	8.0	11.5	155	40	C	Very good flame retardancy and processability.
Tube for optical fiber (stiff)	PF 1043	2.1	15.0	190	40	D	Good flame retardancy and high degree of stiffness.
LV cable sheathing	5549 LM	3.0	11.0	160	45	B2	Excellent flame retardancy, best in class in char formation with very low dripping and low heat release. Can be used with ECCOH XLS insulation.
LV cable sheathing	5549/1	3.0	12.0	170	45	B2	Excellent flame retardancy and low heat release. Enhanced knife penetration.
LV cable sheathing	5995	8.0	11.5	155	40	C	Class C if ECCOH used in combination with high LOI bedding. Advanced flame retardancy and easy processing performance.
LV cable sheathing	5555 UV	8.0	11.0	180	34	D	Easy processing performance with very good ESCR for armored cable.
LV cable sheathing	5924 UV	3.9	11.5	170	39	C	Medium char formation, high flame retardancy, UV resistance and good ESCR for armored cable.
LV cable sheathing (flexible cords)	5943	6.0	11.0	220	32	D	Good flexibility and easy processability for flexible cords.

\* The ECCOH™ grades in this selection guide can be used for cables expected to meet the noted Euroclass rating. The Euroclass indication of any particular ECCOH grade is offered as a suggestion only. The tests required by the CPR must be carried out on finished cables and not on the individual components of the cable. As a result, the cable design, the other materials used in the cable, and the cable manufacturing process can all influence CPR test results. The cable manufacturer is responsible to conduct such trials to determine the ECCOH grade suitable for the application.

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