



## CT09-07

### Easy tear, low-smoke, halogen-free, flame retardant thermoplastic compound for cable sheathing.

This is a flame-retardant low-smoke thermoplastic sheathing compound which has been especially developed with low tear strength and improved flexibility to facilitate easy removal from cores. The compound meets the requirements of limited toxic and corrosive fume emission, being designed to meet the general requirements of BS7655 Section 6.1 type LTS 1 to 4.

Test	Test method	Unit	Typical value
<b>Physical properties and mechanical properties</b>			
Density	BS 2782 Pt. 6 Mtd 620A-D	g/cm <sup>3</sup>	1.52
Tensile strength	IEC 60811-1-1	N/mm <sup>2</sup>	12
Elongation at break	IEC 60811-1-1	%	150
Tear Strength	BS 6469	N/mn <sup>2</sup>	5
Hardness (N)	Shore A	-	96
Hardness (N)	Shore D	-	56
<b>Typical ageing behaviour after 168 hours at 100°C</b>			
Tensile strength	IEC 60811-1-2	%Variation	-7
Elongation at break	IEC 60811-1-2	% Variation	-20
<b>Typical water immersion behaviour after 168 hours at 70°C</b>			
Tensile strength	IEC 60811-1-2	%Variation	-20
Elongation at break	IEC 60811-1-2	% Variation	-5
<b>Thermo mechanical properties</b>			
Hot pressure deformation at 80°C	IEC 60811-3-1	%	10
Hot pressure deformation at 90°C	IEC 60811-3-1	%	15
Cold bend test at -30°C	IEC 60811-1-4	-	pass
Elongation at break at -30°C	IEC 60811-1-4	%	60 (pass)
Cold impact at -30°C	IEC 60811-1-4	-	pass
<b>Fire &amp; smoke properties</b>			
Oxygen Index	BS ISO 4589-2	%	31
Temperature Index	BS ISO 4589-3	°C	260

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## Recommended processing and handling conditions

### Extruder

An extruder with an L/D ratio (length/diameter) of 15-24 and an extruder screw with a compression ratio 1.5:1 or less are recommended.

### Extruder temperature conditions

It is important that the melt temperature profile is not allowed to increase above 160°C.

As a guide the following temperature profile is recommended:-

Zone 1	Zone 2	Zone 3	Zone 4	Head	Die
120°C	130°C	140°C	150°C	160°C	160°C

This profile will vary slightly depending on extruder type, head design and output.

**Screw water temperature** Depends upon screw design, but should be 30-50°C

**Recommended screen pack** 50 (mesh apertures per linear inch) or 300 micron

### Head and tool design

The head and tools should be so designed as to allow streamlined of material. To obtain the optimum in physical properties in the case of tubing tools, the smallest possible draw down ratio is recommended to avoid internal stress.

### Masterbatches

Addition of approved colour masterbatches, including black, up to a maximum of 1%, has no detrimental effect on the properties or crosslinking capability.

It is recommended that all masterbatches should be thoroughly dried at 60°C for 8 hours or at 80°C for 4 hours.

### Storage and shelf life

CT09-07 has an unlimited shelf life. However, the following precautions should be observed:

- Packaging should remain sealed
- Avoid temperature above 25°C.
- Avoid storage outside and in direct sunlight.
- Use within 8 hours of opening packaging.

### Form and packaging

Form – pellets

Packaging – the following possibilities are available:-

- Moisture resistant sacks containing 25kg.
- Boxes with a moisture resistant heat sealed liner containing approximately 125kg, 500kg or 1000kg.

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