

Non-halogen composite flame retardant “STEM-404”

STEM-404 is a high-performance phosphorus-based flame retardant that is free of halogens and antimony. Designed for polyolefin resins, it delivers exceptional flame-retardant effects even with minimal addition. With outstanding thermal stability and excellent moldability, **STEM-404** ensures superior processing performance.

Physical Properties Data

- Appearance: White powder
- Main Components: Phosphate compounds
- Bulk Density: 0.4

Thermal Analysis(Fig. 1)

Heating Rate: 10°C/min

Air Flow Rate: 100 ml/min

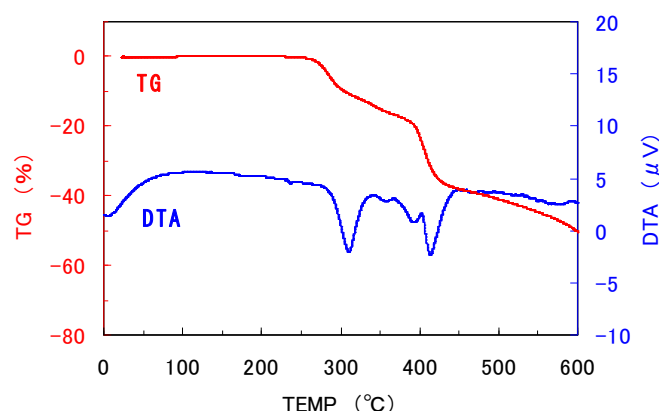


Fig.1 Thermal Analysis(TG-DTA)

Flame Retardancy

Composition (%)	17	20	23
Oxygen Index	29.2	33.4	34.8
UL-94 (3.2mm)	NC	V-0	V-0

Cone Calorimeter(Fig. 2)

Processing Conditions: Twin-screw extrusion at 220°C

PE Resin (MI = 5.2)

Heat Flux: 50 kW/m²

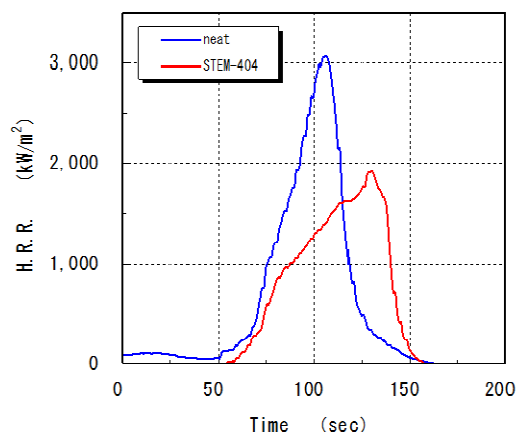


Fig.2 Results of cone calorimeter

Resin Physical Properties

Oven Test Results (90°C, 500 hours)

	Impact Test (J/m)	Tensile Test			Bending Test	
		Strength (MPa)	Elastic Modulus (MPa)	Elongation (%)	Strength (MPa)	Elastic Modulus (MPa)
Before Test	21.4	23.6	1,640	370	29.6	1,400
After Test	21.8	26.7	2,070	80	31.0	1,490

The following data is an example of actual measured values based on our testing methods and is not a guarantee of standard values or performance.



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