Marshall Additive
TECHNOLOGIES
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# FLAME DEFENSE SERIES
# FD415

## Typical Physical Properties

| | |
|---|---|
| Color | white to off-white |
| Specific Gravity | 3.2 |
| Mean Particle Size (microns) | 2-3 |
| 99% Less Than (microns) | 25 |
| Decomposition Temp. | >550°F (>290°C) |

FD415 is an advanced flame retardant technology for FR PVC.

Incorporating Marshall Additives Technologies unique product design, FD415 is a cost saving Antimony –containing synergist product that may provide acceptable performance as a 100% replacement for Antimony Trioxide or can also provide a cost reduction when used as a replacement for 50% of the Antimony Trioxide in the formulation.

FD415 is very cost effective and may, as an additional advantage, impart lower smoke.

APPLICATIONS: Below are sample PVC formulations comparing Antimony Trioxide and FD415 and a partial replacement formulation where 50% of the Antimony Trioxide is replaced by FD415. This PVC formulation is typically used for a low cost Cable Jacket application.

100 parts PVC, 45 phr DINP plasticizer, 25 phr calcium carbonate, 4 phr CaZn stabilizer, 0.5 phr wax

| | Oxygen Index |
|---|---|
| 3 phr Antimony Trioxide | 30.5 |
| 3 phr FD415 | 27.5 |
| 1.5 phr FD415 & 1.5 phr Antimony Trioxide | 30.0 |

Although the Oxygen Index value for complete substitution with FD415 is lower than that for Antimony Trioxide, the substitution of FD415 for one half the Antimony Trioxide produced equivalent Oxygen Index results. A loading of up to 6 phr of FD415 may be considered as an economic substitution for 3 parts Antimony Trioxide.

HEALTH AND SAFETY: Refer to the Safety Data Sheet
PACKAGING: 50 lb plastic bags, pallet weight 2500 lbs.

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