

## High Density Polyethylene Flame Retardant Additive

Larger plastic pieces require fire retardancy to be used and sold in commercial markets in the United States and Europe. These plastics have fire retardant additives incorporated to reduce the flame spread, fume emissions, and heat that a burning plastic part possesses.

The issue with conventional fire retardants that are used is that they make the plastic less durable and mechanically weaker.

Generally, addition of fire-retardant results in lower tensile strength, lower impact strength, lower flexural modulus, and brittle breaks.

These mechanical problems lead to earlier and possibly dangerous failures of plastic parts.

Conventional fire retardants like metal hydrates or mineral phosphates require high loading amounts (15-20%) to make them work. Halogenated fire retardants require lower loading amounts (10-15%), but they release noxious and toxic gases.

Adding **just 1.0-2.0% / weight of plastic** of Pipedream Industries Fire Retardant Additive:

The additive is **20%+ cheaper than existing solutions**

The tensile strength is **20% higher**

The impact strength is **5% higher**

The **max load the plastic can hold is 15% higher**

Peak Heat Release Rate **is between 350-450**

The plastic is now able to reduce the UV degradation **by over 50%**

The electrical conductivity of the plastic helps **reduce clinging dust & dirt**

Tests / Certifications

ASTM E-84:

Cone Calorimeter:

C-115

E-119 (Hour Rated Test):

