



» APPLICATION BULLETIN

Additives and Colorants for PP-R and PP-RCT Pipe Systems

Polypropylene-random grades (PP-R and PP-RCT) are increasingly used for hot and cold water supply pipe systems in civil and public buildings. Benefits include resistance to high temperatures and corrosion, chemical stability, cost effectiveness compared to other materials, and heat weldability to connect different components (e.g. pipes and fittings).

Avient offers colorants and additive masterbatches to color and enhance the properties of PP-R and PP-RCT while meeting technical and regulatory requirements of the pipe system end use. Additive functionalities include antioxidants, UV stabilizers and flame retardants. Additives can be combined with colors in a single product for convenience. US FDA and EU food contact information is available on request.

ANTIOXIDANTS FOR CHLORINATED WATER PIPES

Chlorine is often used in hospitals and community water supply to kill germs and eliminate waterborne diseases (e.g. cholera, typhoid and dysentery). It can have an oxidizing effect and shorten the life of pipes made of materials susceptible to oxidization. Antioxidant additives can help off-set this oxidizing effect.

Avient offers high extraction resistant antioxidants for the inner layer, which help avoid embrittlement, loss of mechanical strength and ensure a longer service life. Our chlorine resistant antioxidants are effective even for highly chlorinated water.

ANTIOXIDANTS FOR METAL/PP-R AND PP-RCT SYSTEMS

Plastic systems in contact with metal inserts can also be subject to oxidization. Avient offers antioxidants that act as metal deactivator for PP-R and PP-RCT components fitted with metal inserts. The masterbatches provide good melt flow protection during process and long-term stability.

UV STABILIZER FOR OUTDOOR APPLICATIONS

PP-R and PP-RCT are susceptible to UV light which can cause degradation by photo oxidation. Avient's UV stabilizers provide pipe systems used outdoors with long-lasting efficient protection from the damaging effects of UV light. They are typically used in the outer layer and can be combined with color (e.g. black) in a single product for convenience.



FLAME RETARDANTS

Flame retardants are recommended for water supply in firestopping systems. Avient's flame retardants can be combined with color in a single product for convenience—e.g. the standard red color typically used for fire sprinkler systems. Our solutions help pipe manufacturers comply with DIN 4102 (B1) or Euroclass B - s1 d0.

COLORANTS

Custom colorants matched to specific color references can be developed and combined with additives in a single masterbatch solution for convenience.

Avient also offers additive and color concentrates for other polymer grades and pipe system applications. Contact your Avient sales representative for more information.

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