NSF/ANSI Standard for Plastics —

Plastics piping system components and related materials

5 Physical and performance requirements

5.7 Chlorine resistance – Dependent listing transfer requirements

In order to qualify a pipe made from a material that already has a chlorine resistance classification, the following minimum requirements shall be met for each pipe which is comprised of a different color in the polymer matrix yet made from that classified material and shall be referred to as a Dependent Transfer Listing.

NOTE — This requirement does not apply to changes in color of an external, coextruded polymer layer which is separate and distinct from the pipe polymer matrix.

A dependent listing transfer shall be required on pipe made from a material that already has a chlorine resistance classification for changes in color formulation as outlined below:

— the resin supplier changes the color formulation.
— the pipe producer changes the color formulation from that previously assessed by the resin supplier.

A dependent listing transfer shall be required on pipe made from a material that already has a chlorine resistance classification for changes in manufacturing practices as outlined below. A minimum of one color formulation shall be assessed:

— the material is produced at a new resin facility.
— the pipe producer introduces a new resin to a pipe production facility.
— the pipe is produced at a new pipe production facility.

This requirement does not apply to changes in color of an external, coextruded polymer layer which is separate and distinct from the pipe polymer matrix.

Qualified pipe shall meet the minimum requirements of 5.7.1 and 5.7.2.
5.7.1 Solid wall pipe with optional inner or outer polymeric layer

— three data points at one hoop stress level at one of the temperature conditions as for the original data set;

— two data points at a second hoop stress level at least 80 psi lower than the first stress level and at the same temperature conditions as for the first stress level;

— the 95% lower prediction limit (LPL) shall be calculated for the original material data at these temperatures / stress conditions; and

— all five data points (failure times) shall meet or exceed the LPL for that condition.

5.7.2 Pipe with middle polymeric layer

— five data points at one hoop stress level at the highest temperature conditions as for the original data set;

— the 95% LPL shall be calculated for the original material data at these temperatures / stress conditions; and

— all five data points (failure times) shall meet or exceed the LPL for that condition.

**NOTE**— The hoop stress level shall be chosen so that there are no mixed mode failures. In the occurrence of such failures, the testing shall be repeated at a lower stress that would generate brittle failures.