S&B TECHNICAL PRODUCTS

TECHNICAL BULLETIN

AWWA C900, C905, C909 Hydro Testing

BACKGROUND

Occasionally Customer questions arise concerning black marking that may appear on the spigot end of PVC pipe made to AWWA C900, C905, and C909. Imagining the possible cause of such marks has led customers to surmise the product they purchased was “used pipe” and / or the marks could have a negative effect on the water system after assembly. The purpose of this Technical Bulletin is to explain black marking that may appear on the spigot end of AWWA labeled PVC pipe.

AWWA Hydro Testing Requirements

Hydrostatic integrity. The pipe, including any integral bell end, shall not fail, balloon, burst, or weep when subjected to an internal pressure as listed in table 1, for a minimum dwell of 5 seconds. The pipe shall attain ambient temperature before testing. When the ambient temperature is higher than 77f the test pressure shall be reduced using Table 4.

Each length of AWWA marked PVC pipe is individually pressure tested. The length of pipe is sealed at each end, filled with water, pressurized, depressurized, and then packaged. As shown in the following photographs the spigot end of the pipe is sealed by being pushed through a gasket and into an end-cap. Subsequent to the 5 second dwell period, the gasketed end cap is retracted to free the spigot end.

After hydro testing black residual marks may be visible on the spigot end.

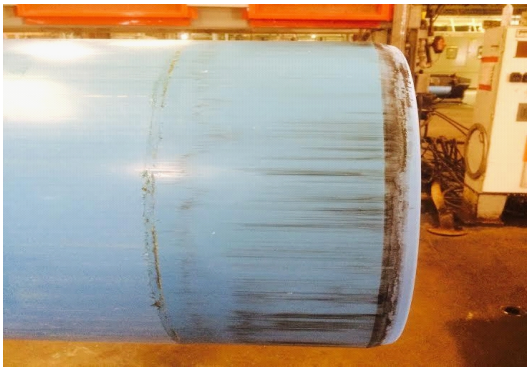
Black residual marks on PVC pipe spigot

Marks are a natural affect in rubber compounds for gaskets. Additives approved for water content; such as, antioxidants, wax, oil, and carbon black, are present in the rubber compound and on gasket surfaces. Such ingredients may rub off during hydro testing and seen on the spigot.

All the ingredients present in the rubber compound are NSF/ CSA listed for drinking water contact. The rubber compound used to manufacture the gaskets is also NSF/ CSA listed as such.

AWWA PVC Spigot inside gasketed Hydro Testing end cap

Hydro Test pressure gage and 5 second dwell period



Black residual marks on PVC pipe spigot