

DIAMOND  **PLASTICS®**
C O R P O R A T I O N

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TO Whom It May Concern

Subject: Ultraviolet (UV) Exposure

PVC Pipe becomes exposed to UV radiation when stored in the sun. Much like the human bodies its surface changes color due to this exposure. Energy from the sun causes excitation of the molecular bonds in the plastic. The resulting reaction occurs only on the exposed surface and to extremely shallow depths of 0.001 to 0.003 inches.

This is not a new phenomenon. However, because of the incredible slow down in the economy and overall construction activity pipe is sitting in manufacturers and distributor's yards for longer periods. Like the human body the longer the exposure the darker the change becomes. It is still only a very shallow surface effect.

Many years ago the PVC industry undertook a study to quantify the effects of UV radiation exposure on the properties of PVC pipe. The study found that exposure to UV radiation results in a change in the pipe's surface color and a reduction in impact strength. However, even after two years the impact strength does not fall below that required of new pipe. Other properties such as tensile strength (pressure rating) and modulus of elasticity (pipe stiffness) are not adversely affected. A sample of large diameter AWWA C905 PVC pressure pipe was also tested after 15 years of exposure and found to pass all requirements of new pipe.

The full study entitled “The Effects of Ultraviolet Radiation on PVC Pipe”, UNI-TR-5, may be found on the UNI-Bell PVC Pipe Associations website at www.uni-bell.org.

In order for Diamond to provide the products the end user needs when they need them we must produce and inventory these products ahead of time. This economic slow down is perhaps the most severe we have seen in our business lives. Predicting what is needed and when is difficult at best and results in inventory turning very slowly. To scrap all products which fade due to exposure to sunlight would be a tremendous waste of energy and unnecessary based upon the research our industry conducted.

Diamond Plastics certainly understands the concerns discoloration of PVC pipe raises. However, this discoloration does not in any way hinder the performance of the product in either gravity flow or pressure applications. It comes with a standard product warranty which Diamond Plastics fully stands behind.

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