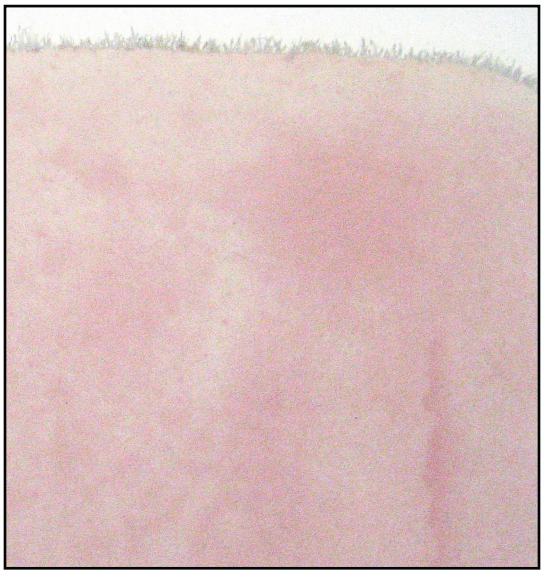
KING PLASTIC CORPORATION

PLASTIC SHEETS SLABS AND MASSIVE SHAPES



Before exposure to U.V. (sunlight)

After 2 hours of exposure to U.V.

TECHNICAL INFORMATION

Color Changes in Polyolefins – Pinking

Pinking, yellowing, discoloring, and gas fading are different names that describe color changes in polyethylene. These color changes are generally associated with the over-oxidation of the phenolic antioxidant that is added to the resin to protect and stabilize it during processing and use. The condition is strictly cosmetic and does not adversely affect the physical properties of the material.

In general terms, this over-oxidation of the phenolic antioxidant results in the formation of colored species called quinines, which, depending on the polymer composition, vary from yellow to red. The pink color most commonly develops in white pigmented polyethylene that has anti-slip agents added, such as King StarBoard® AS. This chemical reaction is reversible and can be eliminated with changes in the environmental conditions.

Although some pinking or color changing can be attributed to incorrect packaging ("cardboard yellowing"), exposure to sodium light or inappropriate material composition, most instances are caused by excessive levels of nitrogen oxides (NOx) in the environment. Usually this occurs in warehouses that use gas-powered fork lift trucks and/or oil or gas fired heaters, but could be in any polluted area where there is a high concentration of vehicle exhaust gases not exposed to sunlight.

To reduce the possibility of "pinking", improve the ventilation in storage areas, especially in winter months; increase the warehouse ventilation or move skids of King StarBoard® AS nearer doors and breezeways and out of corners; keep the remaining material protected in plastic polywrap.

To reverse and remove the pinking condition, expose the material to U.V. for approximately 40 minutes or more.