

## **Evaluation and Discussion of HDPE for Wastewater Covers**

HDPE is the most widely used geomembrane in the world and is used more commonly due to the fact it has a relatively inexpensive material cost. HDPE is an excellent product. It contains carbon black making it highly UV resistant. IEC uses this product almost exclusively for liners. Other products such as RPE, XR-5, PVC and EPDM are good for certain unique applications, but we feel HDPE is the best product for this application.

HDPE is delivered in large rolls with a width of 22.5' and is heat welded in the field by trained technicians providing a high quality, test certified installation. HDPE offers the most cost effective liner for large projects. HDPE is available in different mil thicknesses.

### **Installation**

HDPE installation requires specialized welding equipment and certified welding technicians to be installed properly. HDPE is delivered to the project directly from the factory in 22.5'-wide rolls and is custom-fitted in the field to the designed configuration.

Seamed by fusion welding, heat is applied directly to the geomembrane panels by a motorized hot wedge welder. Welding rolls of material is accomplished using a wedge welder. A wedge welder is a pressure and heat, self-propelled robotic welder that heats and forces the adjacent sheets together, creating a denser, stronger connection. Detailed work around pipes or cut-outs are welded with an extrusion welder. Extrusion welding pushes hot molten HDPE onto a prepare surface and melts/fuses the material together.

HDPE is a great product. It needs to be welded dry and temperatures above 45 degrees F. HDPE has a high expansion/contraction coefficient, so it varies a lot from summer to winter temperatures. You need experienced designers and installation crews to anticipate those changes and make proper adjustments in the plans and field. Experience requirements should be a minimum of 5 million sq. ft. to make sure there is a depth of knowledge and experience.

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