

Super-stiff Super-Linear Polyethylene for Boats and Kayaks

Matrix Polymers pioneered the introduction of Super-Linear Polyethylene in the kayak industry and this material is now widely used also for making sailing boats and other products where greater stiffness and hardness is needed compared with conventional rotomoulding LLDPE grades.

- 0,950 density, means much stiffer, harder and better scratch resistance than conventional LLDPE materials
- Shrinkage reduction technology to reduce warpage and retain good shape
- Impact modified, so tough even though High Density

Producers of kayaks want to use materials that provide maximum rigidity with the minimum possible weight, so that their kayaks are stiff and light and therefore easy to carry, to manoeuvre and control. With Polyethylene the way to increase stiffness is simply to use a higher density grade – the higher the density, the more rigid and more scratch resistant the moulding. The only major down-side to this approach is that if just a normal higher density grade is used the material can be very brittle. This is where Super-Linear technology comes in.



The Super-Linear is more than twice as rigid and also has significantly better scratch resistance as the surface is much harder. Another crucial aspect for a kayak is its toughness. This is usually measured in a laboratory by assessing the impact resistance, as shown in the graph below. The impact test is based on a 'falling dart' test method which was developed by the Association of Rotational Molders (ARM) and rotationally moulded samples are conditioned at -40 degrees C for 24 hours before being impact tested. The impact resistance of the Super-Linear grade M-601 is more than 25% greater than a widely used 0.935 density good quality LLDPE.

Matrix Polymers is uniquely specialised in developing and producing materials just for the Rotomoulding process and supplies and supports Rotomoulders globally. The company believes that our industry will continue to expand and new applications will be able to be developed by introducing fresh, innovative and exciting new materials.

For any information about Matrix Polymers and any other product please email sales@matrixpolymers.com or visit our website www.matrixpolymers.com