polyurethanes
IMPROVING LIVES AND PROTECTING THE PLANET
IN NEW WAYS EVERY DAY

Formula 1 adopts Polyruethane safety blocks to replace tires [17 August 2011]

Singapore, Monaco, Barcelona or Abu Dhabi- all these cities have at least two things in common: they all host Formula 1 races and were among the first to adopt a new technology from BASF France, to replace the racks of old tires as safety barriers on high-speed races.

Spectacular overtaking manoeuvres and high-speed duels between virtuoso pilots are what the public yearns for, unfortunately this is not a risk-free sport and accidents happen. Research on how to install higher security measures for drivers has long focused on the car's cockpit. However, a new system was recently introduced that significantly improves safety on the racing track. Old tires are indeed being gradually replaced by a new generation of safety blocks which make spinning off the track less dangerous.

These safety blocks are made of polyurethane foam with impact absorption properties up to 40 times higher than tires. Each block weighs 120kg and measures 1.5 x 1.2m. In order to make them easily interlocked, they always have a convex and a concave end. The polyurethane block is shaped around a steel sheet, which is then filled with polyurethane rigid foam. Filling the block is the most complicated part of the production process because the manufacturer needs to avoid any deformation. The block must also be held together tight for another 15 minutes after the filling, to allow polymerization.

In the wake of the safety blocks' great success on the racing track, tests are currently carried out on how to extend the use of this special foam. Thanks to its specific characteristic, it is easily applicable for the production of buoys for example.

From protecting racing drivers to sea navigation; the latest PU foam innovations are further examples of how polyurethanes contribute to improving life and protecting the planet in new ways everyday.