# PVC Barrier

PATENT PENDING


**Barrier material moulded to the base of recycled rubber products**

# TCT barrier breakthrough:

## Replacement material for aluminium tapes and slip-sheets

There is a concern in the Solar PV sector that using products made from recycled rubber, may cause plasticiser migration and therefore material loss specifically on PVC roofs. Over the past three years TCT has conducted extensive research into a low-cost barrier solution that would address this concern and allow our rubber products to be used on all flat roofs.

At the end of 2022 we made a break through with a new barrier. The material is patent pending and has been tested to industry standards, at high pressure and in a full range of ambient temperatures and humidity. The test results, conducted by independent test house Impact Solutions, showed a loss of PVC material under 1%.

Current alternative solutions in Europe and US include slip sheets and aluminium barrier tapes. These solutions are either applied post production or during installation. In both cases this means that the barrier can come loose from products/structures over long periods outside. The new TCT barrier is applied in production in the mould so is permanently bonded to the rubber.

### The barrier material is also 100% recyclable.

Over the past few years, to address the plasticiser concern, some solar racking companies have looked to move away from recycled rubber, to using virgin synthetic plastics and rubbers such as EPDM. Many of these alternatives have a lower UV resistance, lower durability, higher cost and crack or fade outdoors.

### Impact Solutions: Test results

TCT-Europe performed an investigation based on the KIWA BRL 1511 parts 1 and 4, section 6.11 which refers to NEN-EN 1548.

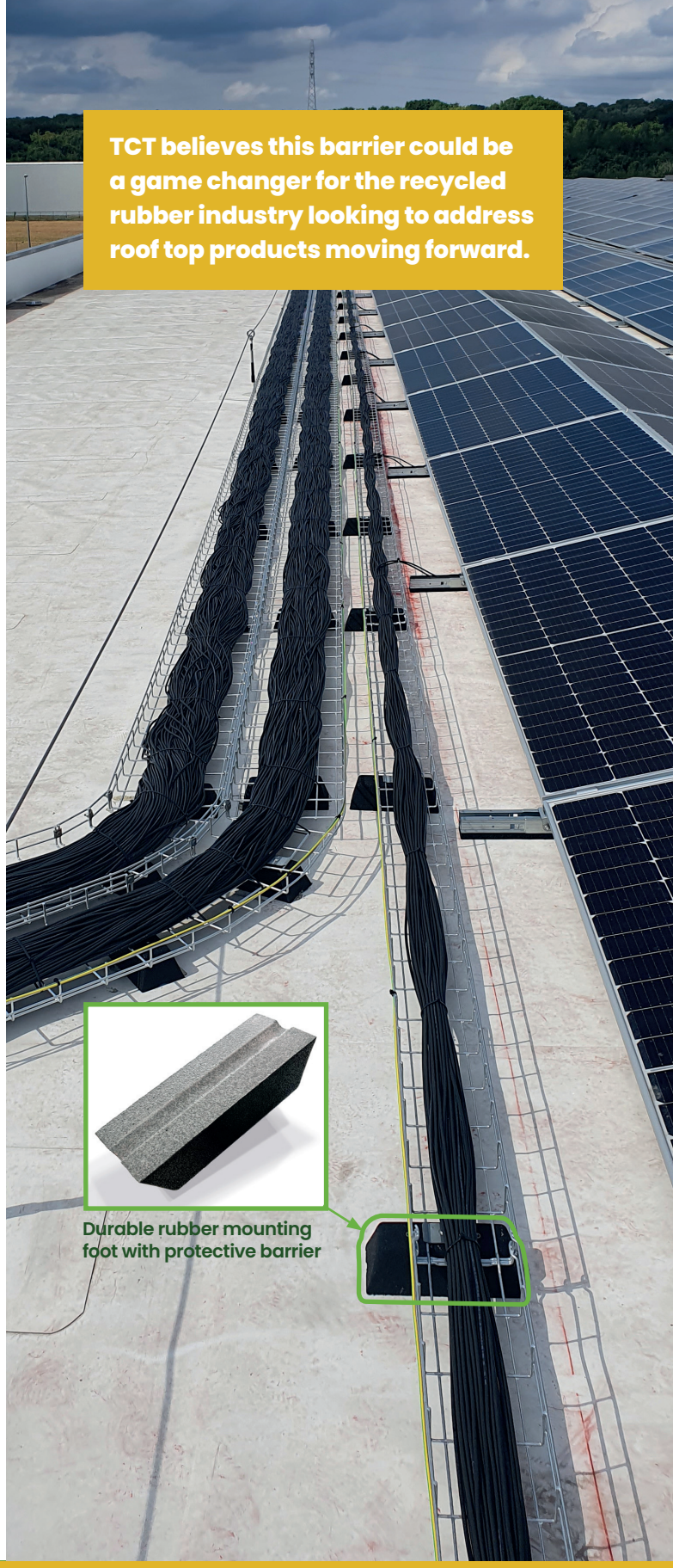
This test is designed for the evaluation of PVC-P sheets. After exposure to a material under the conditions below the PVC-P sheets are required to have a loss in mass less than 3 %. This criterion was used in to evaluate the loss of material on PVC-P sheets after exposure to samples of compression moulded recycled tyre rubber products coated in a TCT patented barrier material.

### Test conditions:

Pressure of 25kPa for a duration of 28 days at 50 °C.

The mass change (Δm, in mass percentage m%) of the materials were determined, in triplicate, by weighing the test samples before and after exposition.

The test samples were conditioned prior to weighing for at least 7 days in a climate with a temperature of 23 °C ± 2 ° C and a relative humidity of 50% ± 5%.

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