

POSITION PAPER:

EcoSoft® lightweight benefits

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EcoSoft® is a recycled PET carpet tile backing developed by Carpets Inter. It is the lightest carpet tile backing and is available in a range of commercial grade carpet tiles in nylons, wools, and even Axminster.

EcoSoft® is a polyester felt made from recycled PET - the same plastic as drink bottles. The EcoSoft® backing gives a dimensionally stable carpet tile with cushioning and insulating properties (thermal and acoustic) but of its many great properties this article focuses on EcoSoft's weight.

Per square meter EcoSoft® backed tiles are around one kilo lighter than PVC backed carpet tiles. The advantage of EcoSoft's low weight is twofold:

1. Easy to handle in installation (OH&S), and
2. Reduced transport impacts (primarily CO2 / climate).

The exact weight differential will vary from product to product, and manufacturer to manufacturer, but we can compare the weights of two carpets from our range when backed with PVC and EcoSoft®:

- o Tajine on EcoSoft® : 3,167 g/m²
- o Tajine on PVC: 4,282 g/m²
- o Sanskrit on EcoSoft®: 2,962 g/m²
- o Sanskrit on PVC: 4,077 g/m²

So, as a rule of thumb, you can expect an EcoSoft® backed tile to weigh around 3Kg/m², whereas a PVC backed tile will be at least 1Kg/m² heavier, and depending upon the manufacturer, often more.



The lighter EcoSoft® backed tile is easier to handle making it quicker to install - reducing the effort of distributing pallets of tiles around buildings and it is faster and safer to install. One of our heavier weight carpets with EcoSoft® backing weighs 14.8kg for a box of twenty 500x500mm tiles. The same carpet on PVC backing weighs 20.3kg a box. For every 100m² laid you move 296 kg of EcoSoft® tiles, if

this were PVC backed tiles you would have to move 407kg. Working with heavy things close to the ground (kneeling, bending over) is hard on a body, so there is a distinct OH&S advantage in specifying EcoSoft® backed carpet tiles.

Before installation it takes transport energy to move things. So as products go from the manufacturing site, to warehouses, and then to installation sites, transport energy is required for trucks, shipping, and forklifts; this is primarily diesel fuel.

Transport energy is considered in calculating a product's life-cycle impacts (its resource use, production, delivery, use, and disposal etc). This transport energy has climate and environmental impacts, not only when fuel is burnt but in the drilling, refining, and distribution of crude oil products.

The heavier something is the more energy it takes to move it. If it takes so many units of energy to move 1000 square meters of EcoSoft® tiles, it will take 1.35 times that energy to move 1000 square meters of PVC backed carpet tiles... 35% more.



The climate impacts of transport are measured in grams of CO₂ produced per tonne/kilometre. A tonne/kilometre is the energy it takes to move one tonne of something one kilometre. The amount varies for different means of transport: a light truck can produce 770g CO₂ per tonne/ kilometre, rail and shipping are more efficient at 40g per tonne/ kilometre. The studies vary on the figures but the key concept is it takes more energy to move heavier things, and this energy use has environmental impacts.

In shipping, for every 1000m² of EcoSoft® backed tile (2.96 tonnes), 118g of CO₂ is emitted per kilometre. Shipping the same carpet on PVC backing (4.07 tonnes) produces 162g CO₂ per kilometre. And this is efficient shipping, not truck transport which could be up to 19 times more.

So when you consider the millions of square meters of carpet that are moving around the world from production to use to disposal, EcoSoft® has clear advantages to those specifiers who look beyond the normal incentives to the broader impacts of flooring.