

# m<sup>2</sup> Wool carpet

Carpet is a common flooring material, widely used for residential and commercial flooring applications. It has good insulative properties and medium - high durability. It is typically graded using surface pile mass (g/m<sup>2</sup>), with a higher g/m<sup>2</sup> generally indicating a higher quality and more durable product.

Tufted carpet is available in three standard styles: 'cut pile', 'loop pile' and 'cut & loop pile'. Within these styles, there are significant variations in durability, aesthetic qualities and cost. During production, carpet fibre is sewn directly onto a primary backing fabric and then bonded (commonly using latex) onto a secondary backing layer (hessian, or similar). Common carpet fibres include: Nylon, Polypropylene, Wool, Wool-blends, Polyester and Acrylic.

Wool carpet is generally more expensive than nylon alternatives. It is often blended with nylon to reduce cost of production and increase durability and toughness. Wool is easy to maintain and is naturally stain resistant, although is highly absorbent making it more prone to stains from spillages.

**Category** *Miscellaneous*

**Type** *Wool*

**Functional unit** *m<sup>2</sup>*

**Specific heat** *1 360 J/(kg·K)*

**Density** *530 kg/m<sup>3</sup>*

**Common uses**  
*Residential and commercial flooring*

**Process name**  
*Carpet, tufted, 80% wool 20% nylon, 1000-1100g/m<sup>2</sup> (custom)*

**Input-output sector**  
*Textile Product Manufacturing*

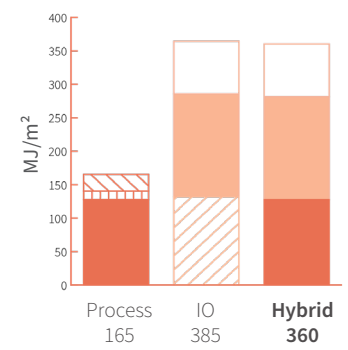
**Further information**  
*doi.org/10.26188/5da55236c5619*

**Material variations**

|                                | Unit           | Energy (MJ/unit) | Water (L/unit) | GHG emissions (kgCO <sub>2</sub> e/unit) |
|--------------------------------|----------------|------------------|----------------|--|
| Tufted carpet, wool - average  | m <sup>2</sup> | 360              | 1 343          | 41.0                                     |
| Tufted carpet, wool - quality  | m <sup>2</sup> | 407              | 1 545          | 49.1                                     |
| Tufted carpet, wool - prestige | m <sup>2</sup> | 509              | 1 945          | 64.2                                     |

**TOP THREE INPUTS**

- 11.3%** Thermoforming, with calendering/RER U/ AusSD U
- 8.8%** Road Transport
- 6.2%** Nylon 6, at plant/RER U/ AusSD U

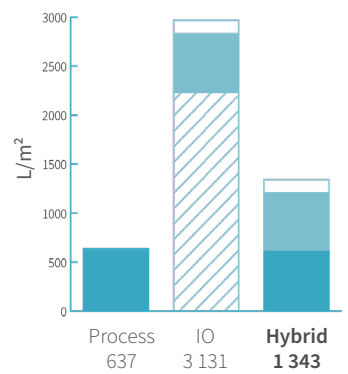


**ENERGY**

**360 MJ/m<sup>2</sup>**

**TOP THREE INPUTS**

- 20.9%** Thermoforming, with calendering/RER U/ AusSD U
- 12.4%** Wool, sheep, at farm/US U/AusSD U
- 6.6%** Textile Product Manufacturing

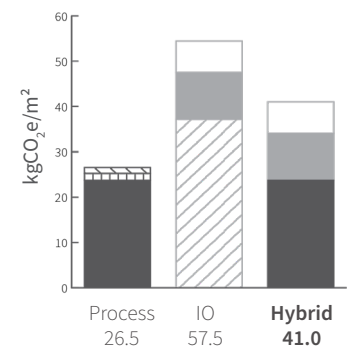


**WATER**

**1 343 L/m<sup>2</sup>**

**TOP THREE INPUTS**

- 38.0%** Wool, sheep, at farm/US U/AusSD U
- 7.5%** Thermoforming, with calendering/RER U/ AusSD U
- 4.7%** Nylon 6, at plant/RER U/ AusSD U



**GREENHOUSE GAS EMISSIONS**

**41.0 kgCO<sub>2</sub>e/m<sup>2</sup>**

