

Wheelchairs and wheelbarrows run smoothly on tires made of polyurethane foam

No more flat tires

The British company Greentyre, has developed and designed tires that aren't affected by sharp objects or long periods of inactivity. The tires are made of micro-cellular polyurethane foam based on a Bayflex® system from Bayer MaterialScience. Products made of this innovative material are longer-lasting and much lighter than solid rubber tires.

To manufacture the tires, the mould is filled with a liquid reaction mix before being rotated during the foaming process. This ensures that the material is distributed very evenly across the whole tire circumference, which means that the tires will run very smoothly.

The material is virtually solid at the tire's outer circumference, and its even surface makes for excellent rolling properties. Thanks to the tire's good aging and weathering resistance, it retains its true-running properties in the long term, even when it remains in one position under a heavy load for an extended period of time and becomes compressed on one side. And the high elasticity of the micro-cellular material ensures that the tire's rolling resistance is almost as good as that of an air-filled tire.

However, this tire technology is not just useful for leisure activities and gardening – it is also ideal for wheelchairs. The Greentyre Company has designed a very special wheelchair for disabled people. One key feature of the sophisticated design concept is its modular structure, which enables users to choose from an array options to meet individual clinical need and the type of use. If required, the wheels can also be removed at the touch of a button. Additionally, the



wheels are equipped with ergonomic hand rims also made of polyurethane. The special feature of these hand rims is that they do not get sharp edges through wear and are pleasantly warm to the touch. The wheelchairs' adjustable arm rests are also padded with this polyurethane foam. It seems that the versatility of this elastomeric cellular material knows no bounds.

This is just another example of the ever increasing versatility of polyurethane.

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