TyrFil™

A CARLISLE BRAND

Recycling Technology

TyrFil is the Only Flatproofing Solution with a Comprehensive Recycling Equipment Line with 24-Hour Global Technical Support

TyrFil Recycling Technology significantly reduces carbon footprint and saves money by:

- **Recycling and using up to 65% reclaimed tyre fill while reducing the petrochemicals (including oil) normally required to fill an off-the-road (OTR) tyre**
- **Keeping used tyre fill out of landfills and eliminating landfill disposal fees**

TYRFIL RECYCLING TECHNOLOGY IS THE MOST RELIABLE, ECONOMICAL AND ECO-FRIENDLY FLATPROOFING SYSTEM!

In 1971, TyrFil, the world's first polyurethane tyre fill material intended to flatproof tyres, was invented. As the industry leader in tyre flatproofing solutions for nearly 50 years, Carlisle TyrFil has made providing environmentally, supportive products a long-term strategic business priority. As part of this commitment, Carlisle continues to invest in recycling technology innovation. Recycling technology mixes virgin TyrFil with either reclaimed tyre flatproofing, crumb rubber or even previously mixed materials, eliminating the environmental impact of sending used polyurethane and used rubber to the landfill.

The TyrFil Recycling Technology's computer systems are field-proven for more than a decade to meter and mix controlled amounts of virgin liquid tyre fill and granulated tyre fill to a homogenous TyrFil mixture that fills the tyre exactly the same as virgin liquid tyre fill.

	Green Machine	AutoFil Recycler System	HD Grinder
			
Features	Processes PU grind, rubber crumb grind or rubber granules. Grinder is separate.	Grinds reclaimed tyre fill and fills tyres.	Grinds both reclaimed tyre fill, PU grind and rubber crumb grind.
Environment	High volume, good supply of reclaimed tyre fill, PU grind or rubber crumb grind	High volume, good supply of previously used cured tyre fill (virgin or PU grind)	High volume, good supply of reclaimed tyre fill, PU grind or rubber crumb grind
Processing Speed	Up to 17 – 19 liters per minute	Up to 13 – 15 liters per minute	Up to 5 – 7 kilos per minute
Electrical Requirements	380 Volt, 3 Phase, 30 Amp	380 Volt, 3 Phase 50 Hertz, 60 Amp	380 Volt, 3 Phase, 60 Amp

The TyrFil Recycling Technology Eliminates Chunking

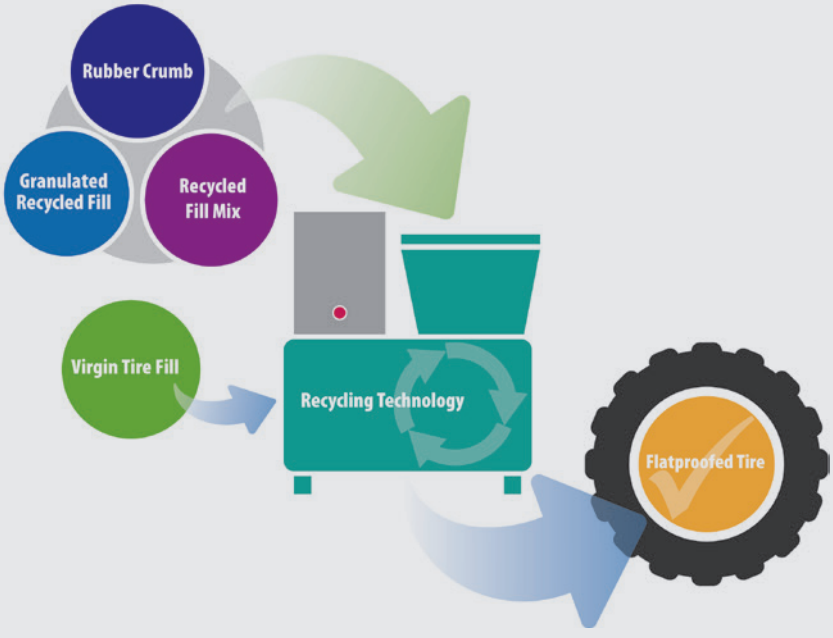
Chunking is the term used to describe filling tyres with “chunks” of used tyre fill, and then filling the remainder of the tyre with virgin tyre fill. With no standard practice, consistency or control of process, the overall tyre performance remains inferior compared to a properly filled tyre.

The Reasons Why Chunking Does Not Work

1. **Mega-chunking –** Old chunks of polyurethane do not bond to the new/virgin liquid fill, so the more a tyre is chunked, the more surfaces or interfaces are created increasing the frictional heat generated within a tyre.
2. **Incompatibility –** The durometers and chemical compositions of different types of fill vary widely. Because of these differences, the chunked materials are not apt to bond, physically or chemically, with the new urethane.
3. **Heat History –** A significant amount of high-heat history “chunk” is finding its way into new tyres. The use of this “old chunk” will result in the premature failure of filled tyres due to run-away overheating.
4. **Process Variability –** Due to the very nature of the “chunking” process and component “raw materials”, it is virtually impossible to ensure any level of consistency in a filled tyre which has been chunked.
5. **Tire Carcass Over-Heating –** Frequently the excessive heat generated by the “chunk” or inferior polymer will cause the tyre carcass to fail prior to any noticeable degradation in the fill mass.

Tire Fill Recycling in the 21st Century

- Blends all material together BEFORE filling
- Processes recycled tyre fill as well as crumb rubber
- Exceeds EPA’s requirements for reclaimed materials content
- Computer controlled
- Optimized and sustained ratio
- Optimized profit
- Consistent durometer



COMMITMENT TO SUSTAINABILITY

Carlisle TyrFil is committed to investing in R&D which supports the sustainability of our environment.

As the industry leader in tyre flatproofing solutions for nearly 50 years, Carlisle TyrFil has made providing environmentally supportive products a long-term strategic business priority. As a zero waste, zero emission manufacturer, Carlisle TyrFil has proved that innovation and sustainability can coexist and become a competitive advantage.

During the past decade, Carlisle TyrFil has introduced next generation technology that significantly reduces the usage of oil, petrochemicals, toxic metals and other environmentally harmful compounds. Carlisle TyrFil's sustainability initiatives have resulted in safer manufacturing environments for our employees and our customers.

We keep the world rolling.
No flats, smoother ride, more protection.

Carlisle TyrFil GmbH
Buennerhelfstr. 19, 44379 Dortmund, Germany | +49 231 534 679 – 100 | **www.CarlisleTyrFil.com**

TyrFil™ A CARLISLE BRAND

09.04.20 © 2020 Carlisle.
TFS-12268 - "TyrFil Recycling Technology Brochure - Dortmund"