

# CoVulc

Functionalized Micronised Rubber Powder


CoVulc - Functionalised Micronised Rubber Powder (FMRP) is used in tyres, conveyor belting, hoses and other technical rubber goods. CoVulc is an ambient-ground rubber powder produced from end-of-life whole truck tyres. Through a patented chemical surface treatment, the particles are reactivated to form crosslinks during vulcanisation. Unlike conventional micronised rubber powder, CoVulc is not an inert filler. It acts as a functional compound extender, replacing all components of the formulation, contributing to the polymer network while simultaneously providing filler-like reinforcement.

By integrating into the rubber network, CoVulc substantially reduces the performance losses typically associated with recycled rubber. Tensile strength, modulus, tear and abrasion resistance are maintained, while dynamic properties such as hysteresis and heat build-up remain well controlled. This makes CoVulc an excellent high-performance, cost-efficient additive in tyres and other demanding applications.


Loading levels depend on the application, but as a general guideline, 10–30 wt.% can be incorporated without significant loss of key mechanical or dynamic properties and without undesirable processing issues. Higher loadings are possible where maximum volume cost savings are the primary objective.

## Key Benefits


- A highly sustainable and circular material
- Maintains all key mechanical performance at loadings up to 30 wt.%
- Can enhance tear strength at optimal crosslink density
- Maintains excellent dynamic properties:
  - Low tan delta and hysteresis
  - Low heat build-up
  - Low rolling resistance
  - Enhanced flex-fatigue life
  - Low compression set
- Does not increase compound specific gravity (SG) of a compound, regardless of loading
- Provides significant volume-cost savings
- Minimal impact on cure kinetics including scorch safety, T90 cure time




**No performance trade-off**  
Maintains tensile strength, modulus, tear and abrasion resistance even at elevated replacement levels



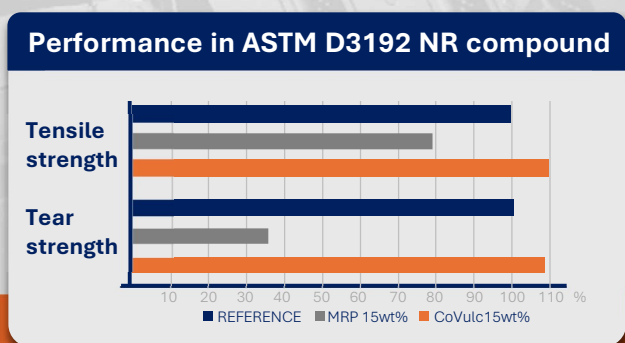
**Excellent dynamic properties**  
Low hysteresis and tan delta ensure reduced heat build-up and improved fatigue resistance.



**Lower formulation cost**  
Reduces raw material cost while maintaining compound performance, enabling higher filler efficiency without increasing density (SG).



**High-impact circular material**  
Combines high recycled content with performance-driven functionality, supporting CO<sub>2</sub> reduction.



## CoVulc™ typical values

Parameter	Value [wt.%]
Polymer	59
Carbon black	26
Inorganic content	7
Moisture	< 0.5
Free fibre / steel	< 0.1
Acetone extraction	6.5
SVHC (ECHA all listings)	< 0.1

### Material properties:

Particle size distribution: D95 < 180µm

Specific gravity: 1.14

Bulk density: 400kg/m<sup>3</sup>