

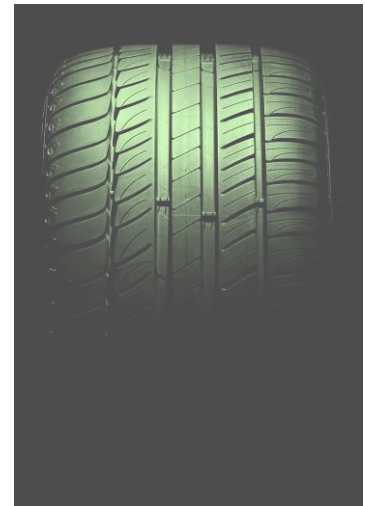
Actifine is a high performance Functionalized Micronised Rubber Powder (FMRP) and finds applications in tyres, conveyor belting, hose and other technical rubber goods. Actifine is a cryogenically ground rubber powder produced exclusively from pre-selected end-of-life whole truck tyres and undergoes a patented chemical surface treatment in order to (re)-activate (or “functionalise”) its ability to form crosslinks during vulcanisation. As such the rubber powder becomes a bonded and integral part of the new rubber compound, allowing the rubber industry to produce more sustainable and high performance products.

The surface activation minimises the negative impacts on tensile properties (particularly M300 modulus), tear and abrasion resistance that are typically associated with untreated MRP. Dynamic moduli, tan delta, hysteresis and heat build up are maintained at very attractive levels, thereby making Actifine an excellent high performance and low cost additive in tyres and other demanding applications.

Loading concentrations vary according to application but as a general guideline between 5 and 10 wt.% loadings are possible without any significant loss of mechanical or dynamic performance or undesirable processing problems. Higher loadings are possible where maximum volume cost benefits are sought.

Benefits

- A highly sustainable and circular material
- Minimal impact on cure kinetics (scorch safety, T90 cure time)
- Minimal impact on Mooney viscosity, even at higher loadings
- Maintains all key mechanical performance at loadings around 5 to 10 wt.%
- Enhanced tear strength at optimal crosslink density
- Maintains excellent dynamic properties:
 - Low tan delta
 - Low hysteresis
 - Low heat build up
 - Low rolling resistance
 - Enhanced flex fatigue life
 - Low compression set
- Does not increase the density (SG) of a compound, irrespective of loading
- Provides significant volume cost savings



Actifine Typical Values

Polymer (mostly NR): 57 wt.%

Carbon black: 29 wt.%

Inorganic content: 7 wt.%

Moisture: < 0.5 wt.%

Free fibre + steel: < 0.1 wt.%

Specific gravity (SG): 1.14

Bulk density: 370 kg/m³

Acetone extraction: 6 wt.%

PSD (D95): < 180µm

SVHC (ECHA All Listings):
PASS (all < 0.1 wt.%)