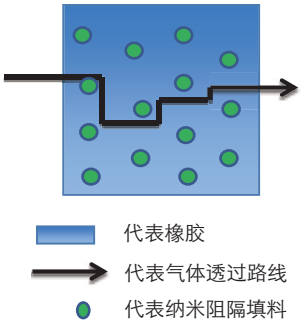
高效气体阻隔剂 TOPWIZ® A-200

特点

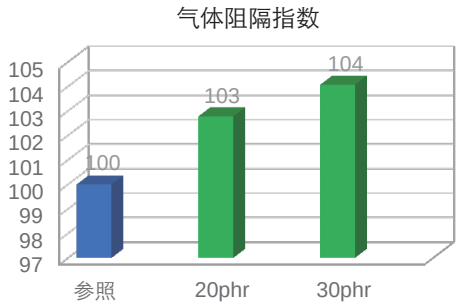
A-200是一款超细高效气体阻隔填料，它是由纳米级碳酸钙经特种树脂和分散助剂表面改性处理而成。A-200能够很好地分散在橡胶体系中，从而有效改善气密层的气体阻隔性能，同时不影响胶料的抗疲劳和抗老化性能等性能，并且具有优良的加工性能，提供适用于生产加工的粘度、焦烧时间、硫化速度和表面黏性等。产品特点如下：



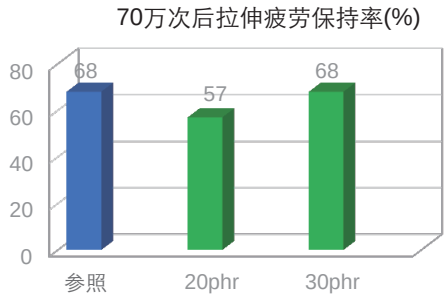
1. 良好的界面结合强度，保障了良好的抗疲劳性，提高了填料的疏水性
2. 降低产品的成本，无需配方调整情况下直接添加使用，建议用量为10-30phr

性能

轮胎气密层应用——气密性和抗疲劳性能

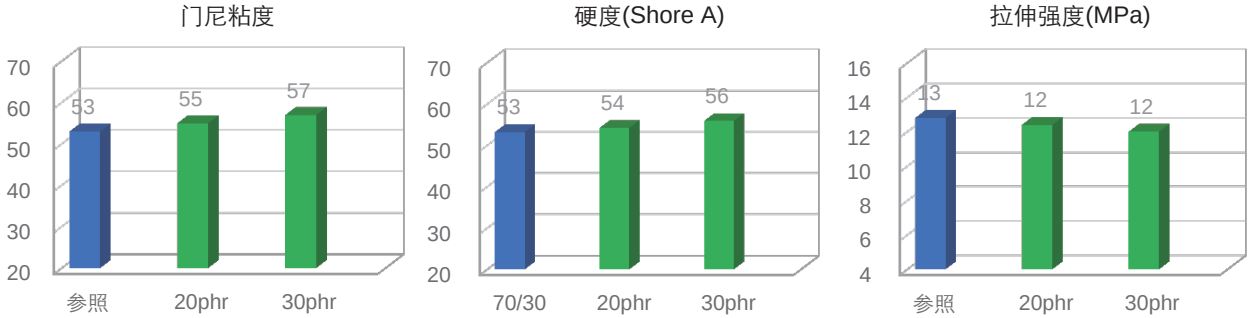


*图例中气体阻隔指数数值越大越好



A-200的添加对橡胶大分子中微观间隙起到填充作用，延长了气体的透过路径，提高了胶料的气密性；同时由于纳米填料良好的补强作用和特种树脂的改性作用，拉伸疲劳得到较好的维持。

轮胎气密层应用——加工性和拉伸强度



注：70/30代表BIIR/NR用量；20phr和30phr代表A-200在70/30基础上直接添加量

A-200直接添加后，对混炼胶的门尼粘度和焦烧时间基本没有影响，能够保持其正常的挤出压延等加工性能。纳米级的尺寸和表面改性，提高了与橡胶的亲和性，在30份的高添加量时也能够保持较高的拉伸强度。

所有试验数据仅供参考，不作为实际产品技术数据的绝对值

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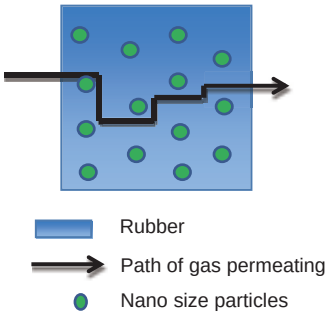
High Gas Barrier TOPWIZ® A-200

Features

A-200 is nano-size inorganic filler modified by special resin and dispersion agent. Due to its good dispersability, A-200 can improve the gas impermeability as well as maintaining fatigue resistance and mechanical properties. It can also provide excellent processability with proper viscosity, scorch time, curing rate and surface tackiness. Its advantages are as following.

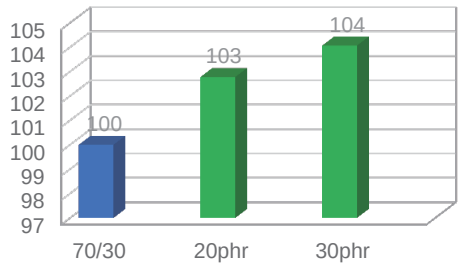
1. Good interface bonding for good fatigue life and improved hydrophobicity
2. Direct adding reducing compound cost, recommended usage is 10-30phr



Performances

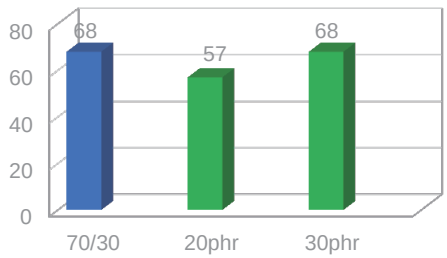
Tire Inner Liner Application - Impermeability and Fatigue

Air permeability index



* Air permeability index, the larger value the better.

Survival ratio after fatigue test (%)

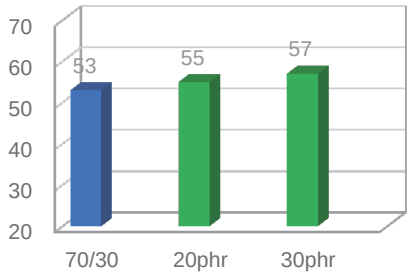


* Fatigue cycle is 700,000

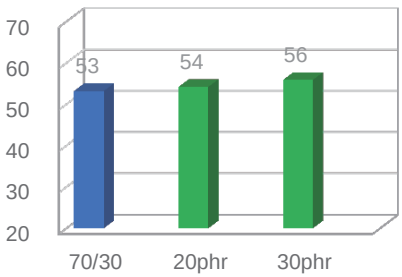
With A-200 introduction, it fills the microspace between the rubber macromolecules to prolong the route of air permeating thus improving its air impermeability. Since A-200 is nano size particle and organic modified, the fatigue performance is well maintained.

Tire Inner Liner Application - Processability and Strength

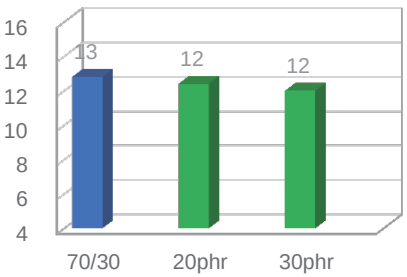
ML(1+4)100°C



Hardness(Shore A)



Tensile strength(MPa)



Note: 70/30 represents amount of BIIR/NR; 20phr and 30phr represent the directly adding amount of A-200

With A-200 direct introduction, there is no influence on Mooney viscosity and scorch time of the inner liner compound. Therefore the extrusion and calendering can be performed as normal. Because of its nano size and surface modification, tensile strength of the compound has almost no change even with high A-200 loading at 30phr.

All test results are for reference purpose only, not guarantee for actual products.

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