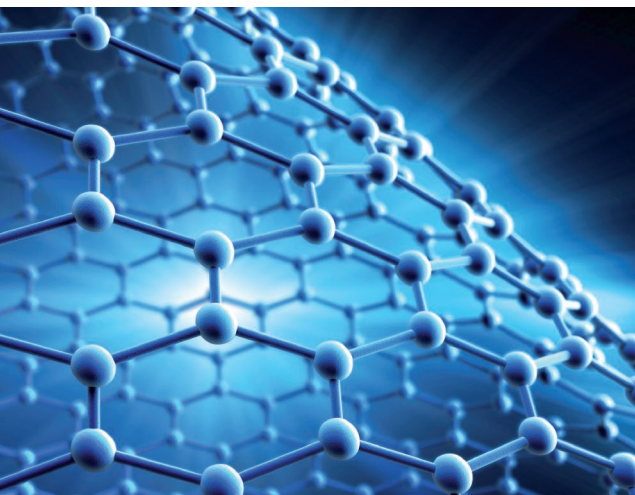


PERTEC® NP FKM



In many industries the requirements for high tech materials become more and more demanding. Where the automotive industry has a great need for low permeability and good abrasion resistance, the oil drilling industry demands high elongation and hardness and for the electronic and food industry FDA compliance and low release of metal ions is essential. Staying competitive means keeping up with the newest technology and adapt to the according new challenges.

Through microemulsion a new class of peroxide curable PERTEC® NP FKM compounds was developed on the bases of nano-PTFE.

We are proud to make available for our customers this material that shows relevantly enhanced features compared to conventional compounds.

Depending on the applications we can provide it in different concentrations in terms of fluorine content (chemical resistance). It comes with a Shore A hardness from 70 to 90.

This enables us to offer improved products in the field of sealing like our range of o-rings for all applications where low friction is mandatory.

Features

Compared to PTFE powder

- PTFE agglomeration can be avoided
- PTFE dispersion is homogenous
- Good mechanical properties

Benefits

Due to microemulsion versus coating

- Low friction, good abrasion resistance
- High chemical resistance, low permeability
- High hardness and high elongation
- No metal ions



FDA - CFR 21 - 177.2600 food a) - f)

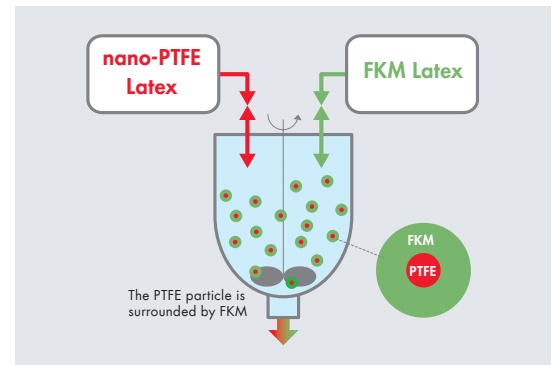
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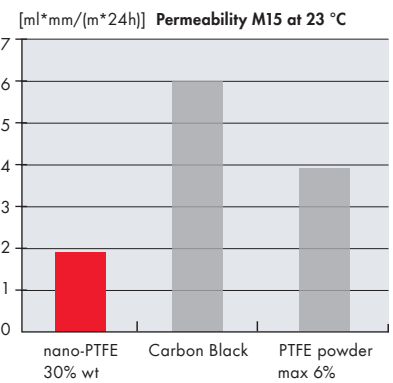
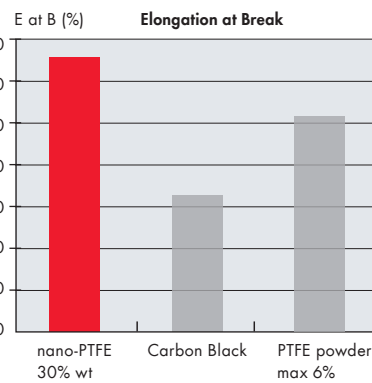
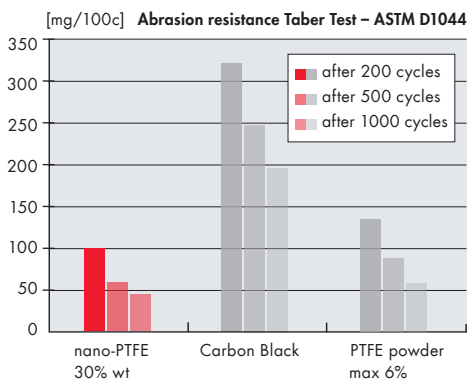
Depending on the application the concentration of the nano-PTFE may vary from 0% up to 40% wt. Here are the effects of nano-PTFE content on mechanical properties:

nano-PTFE	% wt	40	30	15	5	0
Mold press 10 min at 160 °C	-	Post Cure (1+4)h at 230 °C				
Tensile Strength	MPa	18,0	20,3	21,9	22,9	22,4
M100	MPa	6,5	5,2	2,2	1,5	1,4
Elongation at Break	%	300	332	340	356	350
Hardness	Shore A	85	78	64	56	54
C. Set 70 h at 200 °C o-rings #214	%	36	27	24	22	22

The FKM polymer is obtained via a co-coagulum approach:



The outstanding effect of nano-PTFE filler in terms of abrasion resistance, elongation at break and permeability, compared to other fillers:*



*This information is based on our available data. These values are measured on standard test specimens and are within the normal tolerance range of material properties and do not represent guaranteed property values. Therefore they shall not be used for specification purposes.

Certificates

ADI free
FDA - CFR 21 - 177.2600 food Chapter a) - f)
Phthalate free

Industries/Segments						Typical Products
Pharma	Chemical	Food & Beverage	Valves	Pumps	Couplings	O-rings
						Moulded parts
						Membranes
						Dynamic seals