
EU Approval for Medical-device Silicone Incorporating Nanotubes



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OCSiAl says graphene-enhanced conductive silicone product complies with RoHS Directive.

[Luxembourg](#) - A silicone rubber compound incorporating graphene nanotube concentrate and tailored for use in medical devices has been granted entry to the EU market, developer [OCSiAl](#) has announced.

According to OCSiAL, a Chinese silicone rubber compound manufacturer selected its graphene nanotubes for use in the production of electrical devices for massage treatment.

Based on silicone-compatible carriers, the nanotube concentrate is said to offer advantages over applying silver-based additives as manufacturers can retain standard production processes.

Compliance of the nanotube compound with the EU RoHS Directive, has allowed the manufacturer to enter the European market, said OCSiAL.

The clearing process, it added, was helped “by the fact that that OCSiAl’s nanotubes are the only single wall carbon nanotubes registered under the European REACH regulation.”

Graphene nanotubes allow manufacturers to combine electrical conductivity with the original softness and flexibility of silicone rubber, outperforming other solutions.

Graphene nanotubes “outperform other conductive materials for silicone rubbers used in skin-contact applications such as carbon black and silver particles,” claims OCSiAl.

Silver-based additives present challenges in mixing and processing, while carbon black can lead to skin contamination and also degrade silicone properties, such as flexibility and softness, the company stated.

Nanotubes make it possible to pass massage pulses through rubber to the human body, while maintaining the desired original properties of the silicone, according to OCSiAl.

Doses as low as 0.25% of nanotubes from OCSiAl replaces up to 40% of carbon black in a conductive high consistency rubber silicone compound, ensuring stable volume resistivity of $<100 \Omega \cdot \text{cm}$, it noted.

Read the [original article](#) on European Rubber Journal.