Enhancing the electro-mechanical properties of polydimethylsiloxane elastomers through blending with poly(dimethylsiloxane-co-methylphenylsiloxane) copolymers

Yu, Liyun; Jeppe Madsen, Peter; Boucher, Sarah ; Skov, Anne Ladegaard

Publication date:
2018

Document Version
Peer reviewed version

Link back to DTU Orbit

Citation (APA):
Enhancing the electro-mechanical properties of polydimethylsiloxane elastomers through blending with poly(dimethylsiloxane-co-methylphenylsiloxane) copolymers

Liyun Yu, Peter Jeppe Madsen, Sarah Boucher, Anne Ladegaard Skov*
Technical University of Denmark, Danish Polymer Centre
al@kt.dtu.dk

Phenyl group - electron-trapping effect

Disturbance of cloud of π-electrons - anion radicals

Voltage stabiliser

Electrical treeing

Failure of insulation material
Enhancing the electro-mechanical properties of polydimethylsiloxane elastomers through blending with poly(dimethylsiloxane-co-methylphenylsiloxane) copolymers

Liyun Yu, Peter Jeppe Madsen, Sarah Boucher, Anne Ladegaard Skov*
Technical University of Denmark, Danish Polymer Centre
al@kt.dtu.dk

Anionic Ring-Opening Polymerisation

Phenyl-PDMS copolymer in PDMS matrix
Enhancing the electro-mechanical properties of polydimethylsiloxane elastomers through blending with poly[dimethylsiloxane-co-methylphenylsiloxane] copolymers

Liyun Yu, Peter Jeppe Madsen, Sarah Boucher, Anne Ladegaard Skov*

Technical University of Denmark, Danish Polymer Centre

2.2.14

Thank you