

# INVESTIGATION OF WATER DIFFUSION INTO THE SILICONE ELASTOMERS

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Sixty years ago a new material, methyl silicone, appeared on the scene. Since then several types of this kind of materials have been developed around the world. Recently several pharmaceutical forms, implants, health devices, etc. have been developed on various silicone basis.

In our previous works we have investigated the effect of various liquid additives on the properties of silicone elastomers. We have studied the change of polarity in the silicone membranes. The integration of liquid additives (glycerol, propylene-glycol, polyethylene-glycol, ethylene-glycol) into the silicone elastomer resulted matrices with various polarity.

In our recent work we have investigated the diffusion of water into the silicone membranes, measured the diffusion and mechanical properties of the silicone membranes as well as we have investigated the effect of polar groups built in to the silicone frame on the water uptake.

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