

Re: Polymers which are using RO membrane

Source: <http://sci.tech-archive.net/Archive/sci.materials/2007-09/msg00017.html>

- *From:* Mark Thorson <nospam@xxxxxxxxxx>
 - *Date:* Mon, 10 Sep 2007 12:25:27 -0700
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chemist aysen wrote:

I want to learn all polymers type for RO membrane. My mind is very fix. It is about my thesis. I didn't select any subject yet. Maybe I'll try to find new kinds of polymers for RO membrane. So I start to my research. Please help me.

I suggest reading the book INTERPENETRATING POLYMER NETWORKS AND RELATED MATERIALS by Sperling. An interpenetrating network consists of two polymer phases, possibly of quite different chemistries, that form two continuous phases. These materials are especially recommended for RO membranes because a single-phase material must have a loose structure to allow passage of a significant amount of liquid through it. But, a loose structure will make it mechanically weak, which is bad because you want to have a pressure head to drive the liquid through the membrane.

By using a two-phase system, you can have one phase which is very permeable and a second phase which is mechanically strong. This illustrates an important principle in polymer design: don't ask one material to perform two mutually opposed jobs well.

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