

### Crystallization Properties of Decrosslinked Polyethylenes Using Supercritical Fluid

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Crosslinked HDPE(High-density polyethylenes) were successfully decrosslinked in a supercritical fluid condition.

The crystallization, and mechanical of decrosslinked crosslinked-HDPE using supercritical fluid were investigated by DSC, WAXS, DMTA and POM.

The crosslinking HDPE was  $T_m$  observed at approximately 121.63°C. It was confirmed that the  $T_m$  increases according to the increase in the decrosslinking reaction temperature and the  $\Delta H$  increases as well.

It can be confirmed that as the reaction temperature increases, the degree of crosslinking decreases and the crystallinity increases. the crystallinity increased as the crosslinking density by crosslinking increased and what was not successfully accomplished of the decrosslinking was decreased of the crystallinity by the network structure.