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# Unmixed Polymer Gels

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## Unmixed Polymer Gels

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Unmixed polymer gels are defects in film quality that are produced in the extruder when inadequate mixing/melting occurs. These gels are not degraded polymer, but discrete domains of polymer at a lower temperature than the bulk melt. Both screw design and process conditions can be the cause of unmixed gels. With regard to screw design, a transition section that is too short can produce unmixed gels in films. These screws will also have more tendency to exhibit surging problems. Polymers that melt too early in the screw can also disrupt the solids bed and produce unmixed gels.

- Tom Butler, Dow Chemical Co.

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