ME 366 HW 3 Will Beitle

1. Thermoplastics due to the active processing time & potential for re-use.

2. Thermal degredation - when the material is too hot & mech. properties breaks down, short shot - material solidifies before it fills mold. flash - material squeezed out sides of mold. melting: if not hot or enough pressure, material will not melt.

3. The depressions are from the ejector pins putting pressure on the part before it has finished cooling, they are not necessary.

4. Thermoforming would be an efficient way to form water bottles by heating plastic & forming it into the shape, another alternative could be blow molding. Design feature that drives water bottles is speed. blow molding uses air pressure to inflate material to the shape of the mold

5. - Chromium is used for the molds for it's strength & resistance to high heated plastic being injected into it. They are milled & CNC-ed to precision.

- Bottles start as small tubes before being treated & expanded in blow molding.