

## Suitability of Various Plastic Materials of Construction for Handling Sodium Hydroxide (Caustic Soda) Service

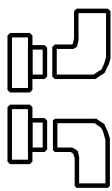
Plastics	Suitability
Thermoset Vinyl Ester	AB 50% to 212° F, glass or graphite reinforced
Thermoset Epoxy	NR 100% at 70° F A to 80% to 140° F A to 50% to 150° F AB to 50% to 210° F C 40% at 212° F No change, 2 years, 70° F No change, 1 year, 70° F, 20-70% concentration
Polyethylene Ultra High Molecular Weight U.H.M.W. PE	A to 100% to 170° F NR to 100% at 60° F -0.5% wt. 5 days, 70° F, 30% concentration
Polypropylene PP	A to 100% to 125° F, no stress A to 70% to 225° F, no stress A to 70% to 180° F, stressed
Polyvinyl-Chloride, PVC Normal Impact, PVC High Impact	A to 100% to 140° F A to 70% to 150° F, no stress, normal impact A to 70% to 150° F, stressed, normal impact NR 5-40% at 212° F A to 70% to 150° F, no stress, high impact A to 70% to 140° F, stressed, high impact
Chlorinated Polyvinyl Chloride CPVC	A to 100% to 150° F A to 70% to 225° F, no stress A to 70% to 180° F, stressed

A <10% swelling, <15% loss of tensile strength, little or no chemical attack

B <15% swelling, <30% loss of tensile strength, minor chemical attack

C <20% swelling, <50% loss of tensile strength, moderate chemical attack

NR >20% swelling, >50% loss of tensile strength, chemical attacked or dissolved



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Poly-Vinylidene Fluoride PVDF Kynar®	NR 80-100% to 70° F A/NR 70% at 70° F B/NR 70% at 104° F NR 70% at 176° F B 55-60% at 70-257° F A to 50% to 70° F B 50% at 100-120° F C 50% at 140-150° F NR 50% at 176° F A to 20% to 104° F B 20% at 140° F C 20% at 176° F NR 20% at 212° F A to 15% to 176° F C/NR 10% at 212° F NR 10% at 230° F
Ethylene Chlorotrifluoro Ethylene ECTFE Halar®	A to 100% to 70° F A to 80% to 175° F A to 50% to 250° F A to 15% to 300° F
Polytetra-Fluoro-Ethylene PTFE Teflon®	A to 100% to 480° F NR 100% at 604° F A to 73% to 500° F No change, 1 year, 392° F, 50% concentration

A <10% swelling, <15% loss of tensile strength, little or no chemical attack

B <15% swelling, <30% loss of tensile strength, minor chemical attack

C <20% swelling, <50% loss of tensile strength, moderate chemical attack

R >20% swelling, >50% loss of tensile strength, chemical attacked or dissolved