



Plastic Compatibility Testing

DIPSMOOTH fluids are designed for high performance in 3D Print vapor polishing & smoothing applications. However, like other halogenated solvents of similar characteristics, DIPSMOOTH will effect certain types of plastics. Tests were conducted as a general guideline for consideration of the possible effects of DIPSMOOTH on various types of plastic with the following results and general conclusions based on observed weight gain/loss and surface degradation/softening:

Legend: A = no effects observed, B = minor effects, and C = significant effects

Plastic Type	Abbreviation	Resistance to DIPSMOOTH ¹	Reflux Testing ²		Immersion Testing ³		
			1 Min.	10 Min.	10 Min.	1Hour	24Hour
Acetal (Polyoxymethylene) <i>(Delrin, Celcon)</i>	POM	Excellent	A	A	A	A	A
ABS (Acrylonitrile-Butadiene-Styrene) <i>(Magnum)</i>	ABS	Poor	B	C	C	C	C
Acrylic <i>(Plexiglas)</i>		Fair	A	B	C	C	C
Chlorinated Polyvinylchloride <i>(TempRite)</i>	CPVC	Fair	A	B	B	C	C
Ethylene Tetrafluoroethylene <i>(Tefzel)</i>	ETFE	Excellent	A	A	A	A	A
Nylon (Polyamide) <i>(Vydyne, Capron)</i>	NYL	Excellent	A	A	A	A	A
Polyester (Polybutylene Terephthalate)	PBT	Excellent	A	A	A	A	B
Polyetheretherketone	PEEK	Excellent	A	A	A	A	A
Polyvinylidene Fluoride <i>(Kynar)</i>	PVDF	Excellent	A	A	A	A	A
Polycarbonate <i>(Lexan)</i>	PC	Fair	A	B	B	C	C
Polyethylene (high density) <i>(Dowlex)</i>	HDPE	Excellent	A	A	A	A	B
Polyetherimide <i>(Ultem)</i>	PEI	Excellent	A	A	A	A	A
Polyphenylene Oxide <i>(Noryl)</i>	PPO	Poor	B	C	C	C	C
Polypropylene <i>(Cefor)</i>	PP	Fair	A	A	B	B	B
Polystyrene <i>(BASF PS4324, Dylene)</i>	PS	Poor	C	C	C	C	C
Polysulfone <i>(Ultrason, Udel)</i>	PSU	Poor	C	C	C	C	C
Polyvinyl Chloride	PVC	Poor	C	C	C	C	C
Polyurethane	PU	Fair	A	B	B	B	C
Polytetrafluoroethylene <i>(Teflon)</i>	PTFE	Excellent	A	A	A	A	A

FOOTNOTES:

- As with any generalized testing, the results of our Plastic Compatibility Testing represents outcomes within the specific parameters and conditions of the tests conducted and are provided for general guidance only. The User is responsible for testing for compatibility with their specific substrate in the context of their operation. Reliance Specialty Products, Inc. disclaims all warranties, actual or implied, in connection with this testing and compatibility for any particular application.
- Plastic coupons were prepared, weighed and placed in a reflux environment at 160°F for the time periods indicated and then removed, re-weighed and examined for changes in hardness and for visible signs of surface effects.
- Plastic coupons were prepared and immersion at 120°F for the time periods indicated and then removed, re-weighed and examined for changes in hardness and for visible signs of surface effects.