FDM Materials
Chemical Compatibility

This document is provided as a guide to better understand the general performance you can expect when exposing Stratasys FDM® (fused deposition modeling) materials to various chemicals. Stratasys always recommends conducting your own testing on materials prior to using them for your particular application. These ratings are relative and are not based on any specific testing.

Chemical Resistance Ratings

1 = Excellent chemical resistance: The solvent is unlikely to degrade the thermoplastic during prolonged exposure and moderate environmental conditions (room temperature and normal atmospheric pressure).

2 = Good chemical resistance: The solvent is unlikely to degrade the thermoplastic during short-term exposure and moderate environmental conditions (room temperature and normal atmospheric pressure).

3 = Limited chemical resistance: The solvent will likely degrade the thermoplastic during short-term exposure.

4 = Poor resistance: The solvent will likely attack and aggressively degrade the thermoplastic when exposed.

FDM Materials									
Chemical	ABS-M30	ASA	PC-ABS	PC	ULTEM 9085 Resin	FDM Nylon 12	PPSF	ULTEM 1010 Resin	Antero 800NA
Aliphatic hydrocarbons (e.g., methane, propane, butane)	2	2	3	3	2	1	1	2	1
Aromatic hydrocarbons (e.g., benzene)	3	3	3	3	2	1	2	1	1
Halogenated hydrocarbons (e.g., CFCs)	4	4	4	4	4	4	3	3	2
Ketones (e.g., MEK, acetone)	4	4	4	4	3	2	3	3	1
Alcohol/ethanol	2	2	2	2	2	4	2	2	1
Phenols	4	4	4	4	4	4	4	4	1
Esters	3	3	4	3	2	1	2	2	1

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Chemical	ABS-M30	ASA	PC-ABS	PC	ULTEM 9085 Resin	FDM Nylon 12	PPSF	ULTEM 1010 Resin	Antero 800NA
Transmission fluid	3	3	3	3	3	1	2	2	1
Windshield washer fluid	2	2	2	2	1	1	1	1	1
Brake fluid	3	3	3	3	3	1	2	2	1
Antifreeze/ engine coolant	2	2	2	3	2	1	1	1	1
Motor oil	3	3	3	3	2	1	2	2	1
Petroleum greases	2	2	2	3	2	1	1	2	1
Silicone greases/oils	4	4	4	4	2	2	2	2	1
Petroleum fuels	2	2	3	3	1	1	2	1	1
Weak acids (pH 3-6)	1	1	1	2	2	2	1	2	1
Strong acids (pH <3)	3	3	3	4	3	4	2	3	2
Weak bases (pH 8-10)	1	1	2	2	1	1	1	1	1
Strong bases (pH >10)	1	1	2	3	2	1	1	2	1
Deionized water	1	1	1	2	1	1	1	1	1

1 = Excellent chemical resistance 2 = Good chemical resistance 3 = Limited chemical resistance 4 = Poor resistance