

Material Compatibility, Properties and USDA/FDA Acceptance

8/31/16	HDPE	UHMW	REPRO/UHMW	OF/UHMW	HT/UHMW
MATERIAL CHARACTERISTICS					
CHEMICALS					
WEAK ACIDS	1	1	1	1	1
STRONG ACIDS	1	1	2	2	1
WEAK ALKALIS	1	1	1	1	1
STRONG ALKALIS	1	1	1	1	1
AROMATIC HYDROCARBONS	3	2	3	3	2
ALIPHATIC HYDROCARBONS	3	1	1	1	1
KETONES	3	1	2	2	1
ETHERS	3	2		2	2
ESTERS	3	2	2	2	2
ALCOHOLS	1	1	1	1	1
INORGANIC SALT SOLUTIONS	1		1		
CONTINUOUS SUNLIGHT	2	2	2	2	2
WATER ABSORPTION IMMERSION	<.01	<.01	<.01	<.01	<.01
MECHANICAL PROPERTIES					
LIMITING PV		2000	3000	2000	2000
HARDNESS ROCKWELL		R56			R57
HARDNESS DUROMETER	72	D66	D67	D64	D68
COEFFICIENT OF FRICTION	0.2	0.12	0.14	0.14	0.12
THERMAL PROPERTIES					
CONTINUOUS SERVICE TEMP F	180	180	180	180	275
HEAT DEFLECTION TEMP F	176	116	116	116	116
COEFFICIENT OF THERMAL EXPANSION	61µin/in - °F	110µin/in - °F	110µin/in - °F	110µin/in - °F	110µin/in - °F
THERMAL CONDUCTIVITY		2.84		2.84	2.84
COLOR	WHITE	WHITE	BLACK/GREEN	DARK BROWN/GREY	WHITE
ACCEPTANCE					
FDA	X	X		X	X
USDA	X	X		X	X
3A DAIRY		X		X	X
NSF					

MATERIAL	ERTALYTE	ERTALYTE TX	ACETAL	DELTRIN
MATERIAL CHARACTERISTICS				
CHEMICALS				
WEAK ACIDS	1	1	2	2
STRONG ACIDS	2	2	3	3
WEAK ALKALIS	1	1	1	1
STRONG ALKALIS	3	3	3	3
AROMATIC HYDROCARBONS	1	1	1	1
ALIPHATIC HYDROCARBONS	1	1	1	1
KETONES	1	1	1	1
ETHERS	1	1	1	1
ESTERS	3	NA	2	2
ALCOHOLS	1	1	1	1
INORGANIC SALT SOLUTIONS	1	1	1	1
CONTINUOUS SUNLIGHT	2	2	2	2
WATER ABSORPTION IMMERSION	<.06	0.06	<0.2	<0.2
MECHANICAL PROPERTIES				
LIMITING PV	6000	6000	2700	2700
HARDNESS ROCKWELL	M94	M94	R120	R122
HARDNESS DUROMETER	D80	D80	D85	D86
COEFFICIENT OF FRICTION	0.19	<.19	<.25	<.25
THERMAL PROPERTIES				
CONTINUOUS SERVICE TEMP F	210	210	180	180
CTE	33µin/in - °F	45µin/in - °F	54µin/in - °F	47µin/in - °F
HEAT DEFLECTION TEMP F	180	180	220	250
THERMAL CONDUCTIVITY	1.9	1.9	1.6	2.5
COLOR	WHITE / BLACK	LIGHT GREY	BLACK/WHITE OTHERS	BLACK / WHITE
ACCEPTANCE				
FDA	X	X	X	X
USDA	X	X	X	X
3A DAIRY	X	X	X	X
NSF				
FDA21 CFR 175.300				

KEY 1= ACCEPTABLE 2= LIMITED 3= UNACCEPTABLE

