

Adsorption Capacity of **ADsorb-it®** Compared to Other Oil Sorbent Media

Polypropylene products are the most widely used oil adsorbent products on the market today... not the best... just the most widely used. This study compares the adsorptive qualities of **ADsorb-it®**, 3M Polypropylene Pads, Heavy polypropylene geo-textile as used for storm water filtration, and Xoil bilge filter with Clarify filter media.

Method

ASTM Method F726-81, "Sorbent Performance of Adsorbents" measures the maximum adsorption of oils and floating immiscible liquids. Testing under these ASTM guidelines, representative samples of the media to be tested were treated with three equivalent solutions of 50 weight motor oil, #2 diesel fuel, and a 50/50 solution of motor oil and diesel fuel. Each media was tested 3 times with each solution and the results of the 3 tests were averaged for each tested media to obtain an accurate representation of the adsorption capacity. Results of this adsorption capacity comparison are presented in the tables below.

Results

#2 Diesel Oil					Adsorption (times its weight)
weight in grams	Xoil Filter	ADsorb-it®	3M Pad	Heavy Propylene	
Dry Weight of Media	1.175	0.5674	0.873	0.3857	
Oil-Saturated Weight	5.453	6.4084	7.919	5.97	
Weight of Oil	4.278	5.841	7.046	4.9843	
Adsorption (times its weight)	3.64	10.29	8.07	5.06	

50/50 Diesel / Motor Oil					Adsorption (times its weight)
weight in grams	Xoil Filter	ADsorb-it®	3M Pad	Heavy Propylene	
Dry Weight of Media	1.1508	0.7448	0.9049	1.0635	
Oil-Saturated Weight	5.5925	7.666	8.5334	6.1893	
Weight of Oil	4.4397	6.921	7.6285	5.1258	
Adsorption (times its weight)	3.85	9.29	8.43	4.82	

Motor Oil					Adsorption (times its weight)
weight in grams	Xoil Filter	ADsorb-it®	3M Pad	Heavy Propylene	
Dry Weight of Media	0.9886	0.7128	0.7935	0.98045	
Oil-Saturated Weight	5.2013	8.3665	8.9828	6.80125	
Weight of Oil	4.2128	7.6536	8.18925	5.8219	
Adsorption (times its weight)	4.26	10.74	10.32	5.94	

Conclusions

Test results clearly show that **ADsorb-it®** out-performed the other filtration media with an average adsorption factor in excess of 10 times the weight of the **ADsorb-it®** filtration fabric. 3M Polypropylene Pads ran second to the **ADsorb-it®**, however, it should be noted that 3M Polypropylene Pads cannot be used as a filtration media because water will not readily pass through the polypropylene pad, nor can they be re-used as the **ADsorb-it®** can be.