

## General

Pre Pleat with activated carbon works almost like an odor “sponge.” This versatile filter is an excellent choice in commercial/industrial settings for remediation of minor odor problems.

This filter combines the low resistance, high dust holding capacity of a pleated filter with the odor removing abilities of activated carbon. The base filtration medium is polyester synthetic fiber. It has a generous 100% add-on of activated carbon by weight. (Weight of activated carbon equals the weight of the media to which it is adhered.) As odor producing gases come in contact with the activated carbon in the filter, they are adsorbed...trapped and held in millions of microscopic carbon pores.

## Construction

The filter medium is comprised of a polyester synthetic fiber felt with an add-on of powdered, activated carbon. This medium is adhered with hot-melt adhesive to an expanded metal backing, then folded into an accordion pleat arrangement. This media pack is encased and sealed within a moisture resistant kraft board frame.

## Key Features

- With activated carbon
- Fast, easy remediation for minor odor problems
- Low resistance
- High dust holding capacity

## Activity Level

Ability of activated carbon to catch and hold a gas or vapor is referred to as its level of “activity.” The higher the activity level, the higher its adsorption level. The activated carbon used in the Dustgard™ Odor Control filter is a coconut shell material with an activity level of 60% or more when subjected to the most common test, using carbon tetrachloride.

However, the effectiveness of activated carbon will actually vary considerably depending upon the odor or vapor to be removed. Typically, the adsorptive capacity of activated carbon is higher for those adsorbates with higher molecular weights and boiling points. A chart on the back side of this sheet lists activated carbon’s typical effectiveness on various substances with a ranking from 1 (low effectiveness) to 4 (high, typically adsorbs to level of 20% or more of the carbon’s weight).

The effective life of activated carbon depends upon the type and quantity of substances to be adsorbed and their dwell time in contact with the activated carbon.



## Effective Levels of Activated Carbon Adsorption

Substance	Molecular Weight	Approx Activity	Substance	Molecular Weight	Approx Activity	Substance	Molecular Weight	Approx Activity
<b>Methane Series</b>			Cresol	108.13	4	Chloroform	119.39	4
Methane	167.04	1	Menthol	156.26	4	Carbon Tet.	153.84	4
Ethane	30.07	1	Formaldehyde	30.03	1	Iodoform	393.78	4
Propane	44.09	2	Acetaldehyde	44.05	2	Phosgene	98.92	4
Butane	58.12	2	Propionaldehyde	58.09	3	Pyridine	79.10	4
Pentane	72.15	3	Acryldehyde	56.06	3	Indole	117.14	4
Hexane	86.17	3	Butyraldehyde	72.10	4	Skatole	131.17	4
Heptane	86.17	3	Valeraldehyde	86.13	4	Nicotine	162.23	4
Heptane	100.20	4	Crotonaldehyde	70.09	4	Nitrobenzene	123.11	4
Octane	114.23	4	Formic Acid	46.03	2	Urea	60.06	3
Nonane	128.25	4	Lactic Acid	90.08	3	Uric Acid	168.11	4
Decane	142.28	4	Acetic Acid	60.05	4	Putrescine	88.15	4
<b>Acetylene Series</b>			Propionic Acid	74.08	4	Chlorine	70.91	3
Acetylene	26.04	1	Butyric Acid	88.10	4	Bromine	159.83	4
Propyne	40.06	2	Valeric Acid	102.13	4	Iodine	253.84	4
Butyne	54.09	2	Acrylic Acid	76.06	4	Hydrogen Fluoride	20.01	1
Pentyne	68.11	3	Caprylic Acid	144.21	4	Hydrogen Chloride	36.47	2
Hexyne	82.14	3	Pamitic Acid	256.42	4	Hydrogen Bromide	80.92	2
<b>Ethylene Series</b>			Methyl Acetate	74.08	3	Hydrogen Iodide	127.93	2
Ethylene	28.05	1	Ethyl Acetate	88.10	3	Nitrogen Dioxide	46.01	2
Propylene	42.08	2	Propyl Acetate	102.13	4	Nitric Acid	63.02	2
Butylene	56.10	2	Butyl Acetate	116.16	4	Sulfur Dioxide	64.08	2
Pentylene	70.13	3	Amyl Acetate	130.18	4	Sulfur Trioxide	80.06	3
Hexylene	84.16	3	Acetone	58.08	3	Sulfuric Acid	98.08	4
Heptylene	98.18	4	M.E.K.	72.10	4	Adhesives		4
Octalene	112.21	4	Diethyl Ketone	86.13	4	Ammonia		2
<b>Benzene Series</b>			Dipropyl Ketone	114.18	4	Asphalt fumes		4
Benzene	78.11	4	Methyl Ether	46.07	3	Auto Exhaust		3
Toluene	92.13	4	Ethyl Ether	74.12	3	Bathroom smels		4
Xylene	106.16	4	Propyl Ether	102.17	3	Bleaching Solutions		3
<b>Other substances</b>			Butyl Ether	130.23	4	Cleaning Compounds 4		4
Isoprene	68.11	3	Amyl Ether	158.28	4	Cooking Odors		4
Turpentine	136.23	4	Methyl Acrylate	86.09	4	Hospital Odors		4
Naphthalene	128.16	4	Ethyl Acrylate	100.11	4	Household Smells		4
Phenol	94.11	4	Methyl Mercaptan	48.10	4	Jet Fuel Fumes		4
Methyl Alcohol	32.04	3	Ethyl Mercaptan	63.13	4	Kitchen Odors		4
Ethyl Alcohol	46.07	4	Propyl Mercaptan	76.15	4	Mildew		3
Propyl Alcohol	60.09	4	Eucalyptol	154.25	4	Mold		3
Butyl Alcohol	74.12	4	Camphor	155.23	4	Ozone		4
Amyl Alcohol	88.15	4	Methyl Chloride	50.49	3	Paint & Redecorating Odors		4
			Ethyl Chloride	64.52	4	Smog		4
			Propyl Chloride	78.54	4	Stale Odors		4
			Butyl Chloride	92.57	4			
			Methylene Chloride	84.94	4			

- 4: High adsorptive capacity with the substance listed.  
 Activity of activated carbon typically will run 20% or more of the activated carbon's weight.
- 3: Satisfactory adsorptive capacity with substance listed.  
 Activity of activated carbon typically will run 10% or more of the activated carbon's weight.
- 2: Borderline adsorptive capacity with substance listed.  
 Activity of activated carbon typically will run 5% or more of the activated carbon's weight.
- 1: Low adsorptive capacity with substance listed.  
 Activity of activated carbon will typically run less than 5% of the activated carbon's weight.