

Product Bulletin for

Purafil Triple-Blend Makeup Air Media

Purafil Triple-Blend Makeup Air Media is made from a blend of Puracarb, Purafil SP and Purakol media in the ratio of 2:1:1, respectively, by volume. Puracarb media consists of generally spherical, porous pellets formed from a combination of activated carbon, activated alumina and other binders, with a proprietary chemical impregnant. Purafil SP media is generally spherical, porous pellets formed from a combination of activated alumina and other binders, suitably impregnated with sodium permanganate (NaMnO₄). The impregnants are applied during pellet formation such that they are uniformly distributed throughout the pellet volume and is completely available for reaction with target gases. Purakol media consists of extruded cylindrical, porous pellets formed from a premium virgin activated carbon. No binders are used allowing the carbon completely available for adsorption of target gases.



Purafil Triple-Blend Makeup Air Media removes the widest variety of chemical contaminants where levels of air pollution from automobile emissions, diesel exhaust and other sources present a risk to human health and well-being. Each type of media targets multiple contaminants or contaminant types specific to motor vehicle exhaust; Puracarb for removal of sulfur oxides, active sulfur compounds, and organic acids and Purafil SP for removal of nitrogen oxides and formaldehyde - 95% of the total gaseous contaminants found in motor vehicle exhaust. Purakol, working in conjunction with the other two media, removes most of the remaining contaminants including ozone, volatile organic compounds (VOCs), and hydrocarbons.

Purafil Triple-Blend Makeup Air Media has been specially engineered to provide the highest overall performance against multiple contaminants. Puracarb and Purafil SP media remove contaminant gases by chemisorption using adsorption, absorption, and chemical reaction (neutralization and/or oxidation). Harmful gases are trapped and converted into harmless solids, eliminating the possibility of desorption and release back into the air. Purakol media removes contaminant gases with high efficiencies and capacities by means of physical adsorption (physisorption). It is very effective against medium-to-high molecular weight compounds and chemical contaminants with low volatility.

Purafil Triple-Blend Makeup Air Media demonstrates a higher working capacity for broad-spectrum control of odorous and irritating gases. Purafil Triple-Blend Makeup Air media can be used when space within an HVAC system is limited but these three individual media are indicated; combining three stages of filtration into one. Purafil Triple-Blend Makeup Air media is also recommended as a polishing media in general odor control applications. Purafil Triple-Blend Makeup Air media provides the following minimum removal capacities:

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Removal Capacities

Contaminant Gas	g/cc	Weight % *
Sulfur Dioxide (SO ₂)	0.0485	7.24
Nitrogen Dioxide (NO ₂)	0.1093	16.32
Nitric Oxide (NO)	0.0304	4.54
Ozone (O ₃)	0.0699	10.44
Aldehydes (as formaldehyde)	0.0268	4.00
Organic Acids (as acetic)	0.1274	19.01
VOCs / Hydrocarbons	0.0796	11.88

* 100 pounds (45.36 kg) of Purafil Triple-Blend media will remove a minimum of 7.24 pounds (3.28 kg) of sulfur dioxide.

Application Guidelines

Temperature	-4°F to 125°F (-20°C to 51°C)
Humidity	10 - 95% RH
Air Speed	60 - 500 fpm (0.30 - 2.54 m/s)
Performance	99.5% (min) Initial removal Efficiency in Purafil systems

Specifications

Purafil Triple-Blend Blend	
Bulk Density	42 lbs/ft ³ (0.67 g/cc) ±5%
Puracarb	
Moisture	35% (max)
Crush Strength	35-70%
Abrasion	4.5% (max)
Bulk Density	45 lb/ft ³ (0.72 g/cc) ±5%
Nominal Pellet Diameter	1/8" (3.175 mm)
Purafil SP	
Sodium Permanganate	12% (min) as NaMnO ₄
Moisture	35% (max)
Crush Strength	35-70%
Abrasion	4.5% (max)
Bulk Density	50 lb/ft ³ (0.8 g/cc) ±5%
Nominal Pellet Diameter	1/16" - 1/8" (1.6 - 3.2 mm)
Purakol	
CTC Activity	60% (min)
Hardness Number	95 (min)
Moisture	2.0% (max)
Ash Content	12% (max)
Bulk Density	30 lb/ft ³ (0.48 g/cc) ±5%
Nominal Pellet Diameter	0.16" (4 mm)

Quality Control

Each lot of Puracarb, Purafil SP, and Purakol media used in Purafil Triple-Blend Makeup Air media is thoroughly tested prior to shipment according to the procedures described in Purafil's ISO 9001 Quality Systems Manual.

Media Life Analysis

Samples of Purafil Triple-Blend Makeup Air media should be sent on a regular basis to the Purafil laboratories for testing to determine remaining media life. This provides for scheduled maintenance, avoids downtime, and assures ongoing protection for processes, products, and personnel.

Disposal

Purafil Triple-Blend Makeup Air media should be disposed of according to local, state, and federal guidelines.

Purafil Triple-Blend Makeup Air media is UL 900 classified for flammability.