Supply Air Filter Cotton

I. Working Process

Air supply filter cotton belongs to the primary air filtration consumables at the front end of the ventilation system. It is mainly made of polyester synthetic fiber or ultra-fine glass fiber material, which is made into a fluffy and gradient density uniform mesh filter material through hot pressing and shaping process. The core relies on the principle of physical deep filtration to complete the air purification operation. There is no chemical adsorption or secondary pollution release throughout the process, and it is suitable for various positive pressure air supply and negative pressure exhaust ventilation systems.

During work, dusty air passes through the three-dimensional interlaced fiber pores inside the filter material at a constant speed under the wind pressure of the fan. Large particles of dust, hair, flocs, sediment, and suspended particles in the air are intercepted, adsorbed, and retained by the fiber layer step by step. Clean air then smoothly passes through the filter material into the air supply duct or target space, achieving air pretreatment and primary purification.

The filter material adopts a progressive density structure, with fluffy fibers and large pores on the inlet side, effectively increasing the dust holding capacity. The fibers on the outlet side are relatively dense, ensuring the filtration effect while controlling the air resistance to avoid affecting the air supply efficiency of the fan due to excessive resistance. The overall filtration process is continuous and stable, without fiber shedding, pulverization and other problems, suitable for long-term continuous air supply working conditions.

II. Core Parameters

Supply Air Filter Cotton is available in standard primary grade, thick high-capacity, and high-temperature resistant models, with parameters meeting national air filtration standards. Selection can be made based on ventilation air volume,and

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environmental dust concentration. The core parameters of standard products cover the needs of common ventilation scenarios.

Filter materials are mainly divided into polyester fiber and glass fiber types. Polyester fiber models offer good toughness and can be washed and reused, while glass fiber models offer higher temperature resistance and dust capacity. Both use adhesive-free forming technology to eliminate fiber shedding and odor issues. Standard thicknesses include.The gram weight ranges from 10mm、20mm、30mm、50mm to 120g/㎡-Higher thickness and gram weight result in greater dust capacity and longer service life. Filtration efficiency ranges from G2-G4grades, with filtration efficiency for particles above5μm reaching 80% to 95%.This meets primary supply air filtration standards. Applicable air velocity is controlled between and0.2m/s-1.0m/s, with initial operating resistance ≤15Pa.

Final resistance is recommended not to exceedto avoid air volume reduction from excessive resistance. Standard models have a temperature resistance range of - 10 ° C to 80 ° C, Custom high-temperature resistant models can reach 120℃, suitable for normal temperature and mild high-temperature supply air scenarios.

Products are available in roll and sheet forms. Standard roll widths include and length can be cut as needed.Sheet forms can be customized to standard sizes, suitable for various filter boxes, air vents, air cabinets,and duct installation. The material is moisture-proof and mildew-resistant, suitable for humid ventilation environments.

III. Usage Instructions

Before installing Supply Air Filter Cotton, clean the filter frame, supply air vent, and inside of ducts to remove residual dust and debris.Ensure the installation surface is flat without protrusions to avoid filter damage affecting filtration efficiency.

During installation, distinguish between the inlet and outlet sides. The fluffy side should face the outdoor inlet, and the dense side should face the fan or supply air duct side. Lay flat and secure within the frame, ensuring the filter is spread flat without wrinkles, edges are sealed tightly with no gaps or air leakage to prevent unfiltered air from entering the supply air system.

During normal operation, no special maintenance is required. Regularly observe the filter surface color changes and fan operating status. When the filter surface is

completely covered with dust, the color changes from white to dark gray,or when supply air volume decreases notice ably or fan wind pressure increases, replace the filter promptly. Under normal conditions, replacement interval is 1 -3 months. For workshops with high dust concentration or environments near construction sites, it is recommended to shorten to to 20 days to 1 month for replacement. Polyester fiber models with light dust accumulation can be gently washed, dried, and reused once to 1 - 2 times. Severe dust accumulation or damage requires direct replacement.

For storage, place the filter material in a dry, ventilated, and cool environment,avoid direct sunlight, rain,heavy pressure, and sharp object scratches to prevent aging and moisture clumping. Unopened products have a shelf life of up to months. 12Dispose of replaced waste filters according to general solid waste classification, no special hazardous waste handling required.

IV. Product Advantages

Supply Air Filter Cotton uses gradient density fiber structure design, combining low air resistance with high dust capacity advantages.Initial air resistance is extremely low, won't increase fan load, effectively reducing ventilation system energy consumption. At the same time, dust capacity is better than ordinary fiber filter cotton, extending replacement cycles and reducing consumable replacement frequency and manual maintenance costs.

The filter material is flexible and durable with mature forming technology. No fiber shedding, powdering, or shedding occurs during use, avoiding secondary pollution of supply air space and ensuring supply air cleanliness, suitable for various places with basic air quality requirements.

The product has excellent adaptability, can be freely cut and bent, suitable for different sizes of filter frames, air vents,air cabinets and ventilation ducts. Installation is simple and convenient, requiring no professional too ls. One person can complete installation and replacement, greatly simplifying maintenance. Overall cost is affordable with outstanding cost performance,compared to high-efficiency filtration consumables.

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Suitable for large-area and wide-range ventilation filtration. Also has good moisture-proof and anti-mildew properties.No issues with filter material rotting or bacteria growth in humid environments, with a wide range of applicable environments.

The filter material is eco-friendly and odorless, contains no glue or harmful chemicals, with no harmful substance release during operation,meeting indoor ventilation safety standards while balancing filtration efficiency and usage safety.

V. Applicable Industries

Supply Air Filter Cotton, as a universal primary air filtration consumable, is widely used in various industries and places requiring centralized supply air and ventilation. It mainly serves as pre-filtration for the front-end of ventilation systems to protect downstream fans,medium and high-efficiency filters and air conditioning equipment, extending core equipment service life. In industrial applications, it is suitable for supply air filtration in mechanical processing,hardware manufacturing, textile, printing, packaging and other workshop supply air filtration, intercepting workshop dust and fluff.Improving working environment. It can also be used for pre-filtration in coating workshops and electronic workshops to reduce burden for downstream precision filtration.

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