

ANTIMICROBIAL AND PM 2.5 PARTICLE-FILTERING STEREOSCOPIC MASK FILTER SHEET

ABSTRACT

Disclosed is an antimicrobial and PM 2.5 particle-filtering stereoscopic mask filter sheet having a three-layer composite structure, wherein an antimicrobial outer layer (1) is zinc phthalocyanine photosensitive material attached to fiber fabrics, including cotton fiber, bamboo fiber, hemp fiber, PET/PP and mixed fiber melt-blown non-woven fabrics thereof and other woven fabrics; a filtering intermediate layer (2) is electreted melt-blown non-woven fabrics; and a protective barrier layer (3) is polypropylene spunbond non-woven fabrics. The filter sheet comprises a left filter sheet (6) and a right filter sheet (7) combined or sutured by a welding strip (5) set therebetween, and the filter sheet and the mask are joined by an adhesive strip (4). The filter sheet can not only effectively filter out PM 2.5 fine particles, pollen particles, bacteria, etc., but also rapidly kill the bacteria retained on the filter sheet, avoiding the growth of bacteria on the filter sheet, which would cause a secondary pollution. By using adhesive strip (4) technology and combining this with stereoscopic mask filter sheet structure, the filter sheet of this special structure can be attached to the inner layer of the mask and used in combination therewith, and is simple and practical to operate. The filter sheet can also be directly prepared as a disposable antimicrobial and anti-haze mask.

[Fig. 1]