

Supplementary Material

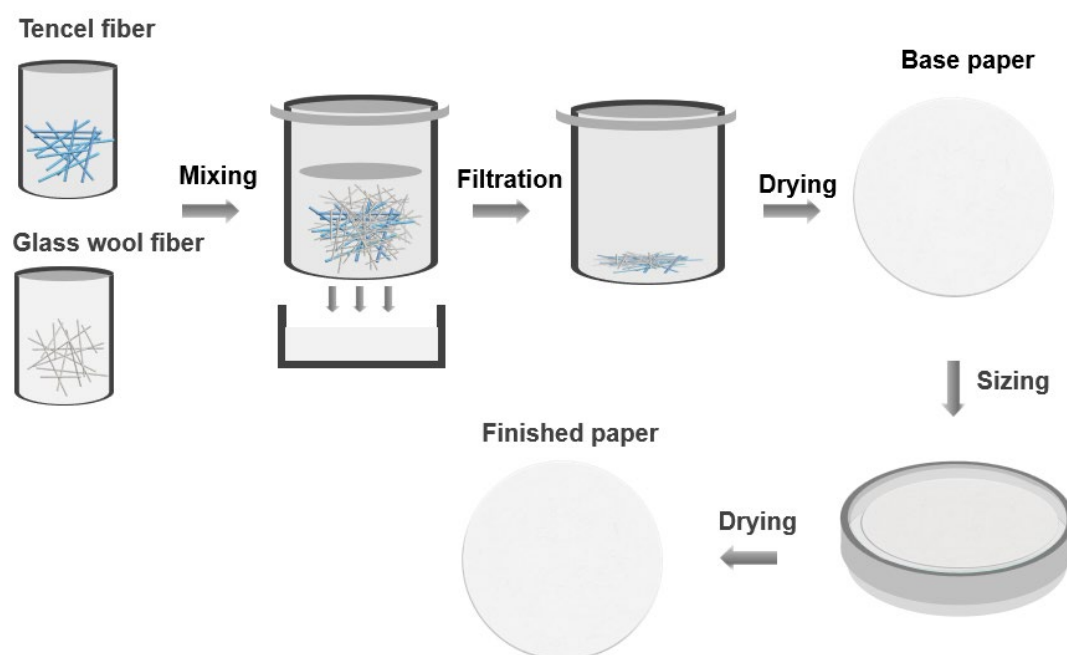


Figure S1. Preparation process flowchart of filter core layer material.

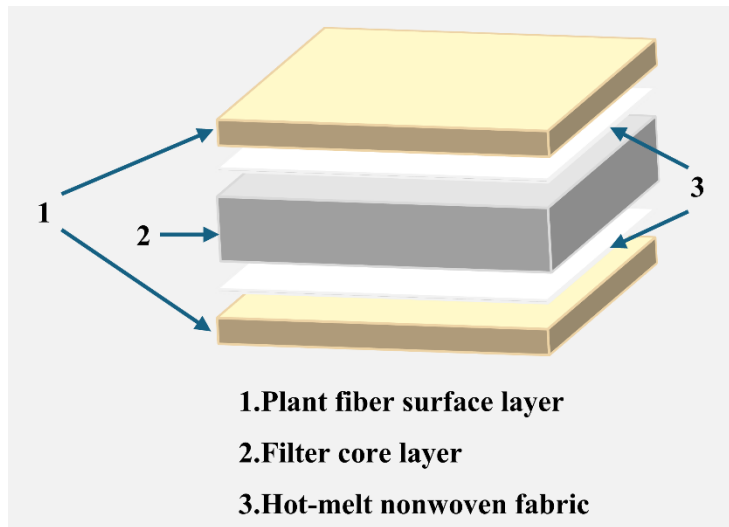


Figure S2. Structure of three-layer composite filter media.

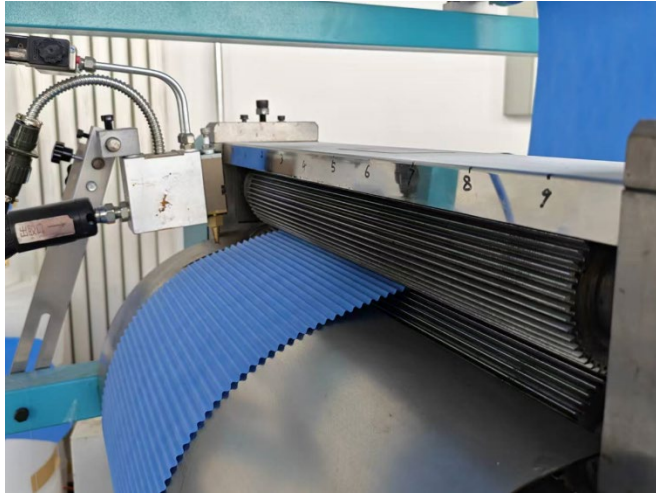


Figure S3. Diagram of waveform pleating machine.

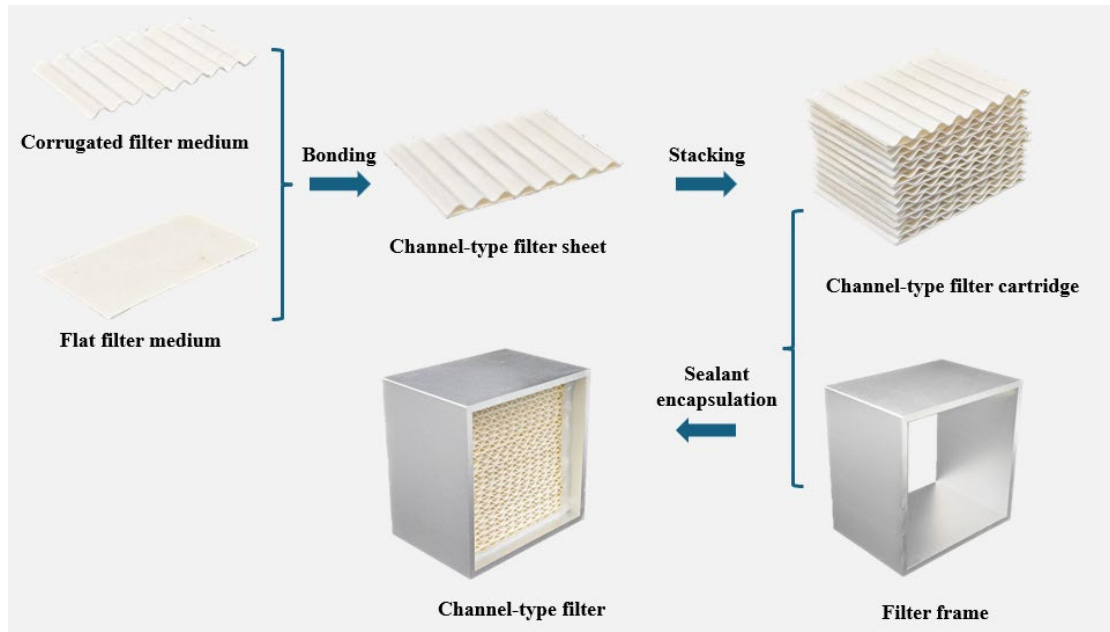


Figure S4. Preparation flowchart of the channel-type filter.

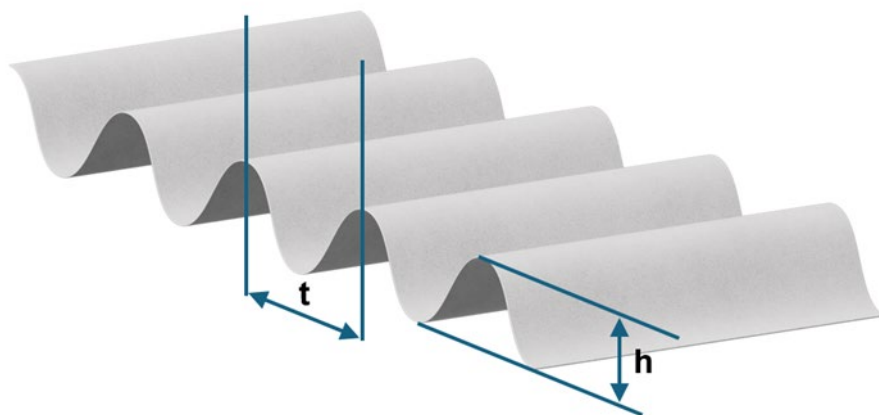


Figure S5. Structure diagram of waveform pleat.

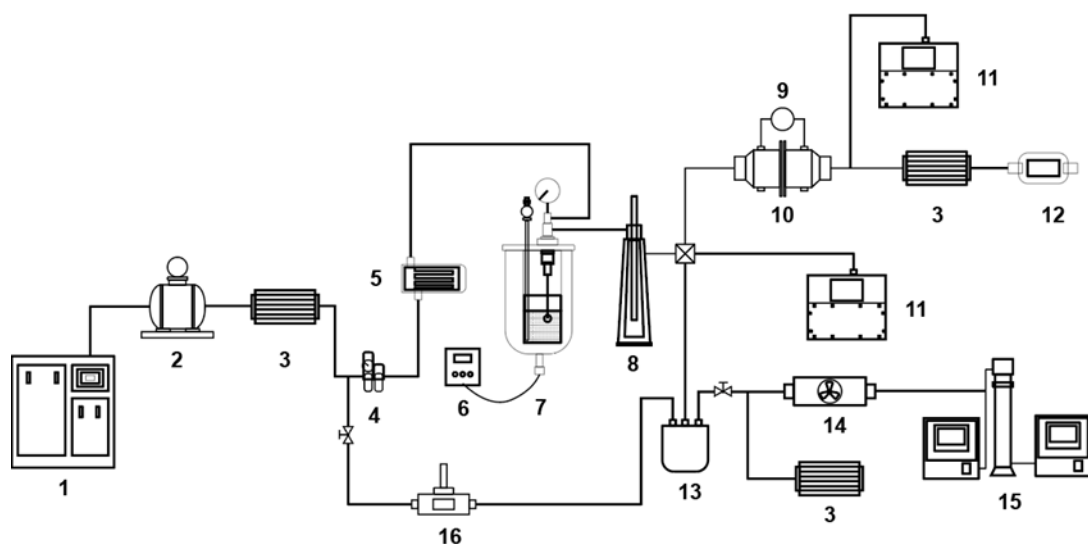


Figure S6. Principle diagram of filtration efficiency test system based on mass concentration. 1 - Air compressor; 2 - Pressure stabilizing tank; 3 - High-efficiency air filter; 4 - Pneumatic single unit; 5 - Air heating device; 6 - Temperature sensor controller; 7 - Oil mist generator; 8 - Spiral separator; 9 - Differential pressure gauge; 10 - Filter holder; 11 - Photometer; 12 - Flow meter; 13 - Mixing tank; 14 - Electrostatic neutralizer; 15 - Scanning mobility particle sizer; 16 - Flow controller.

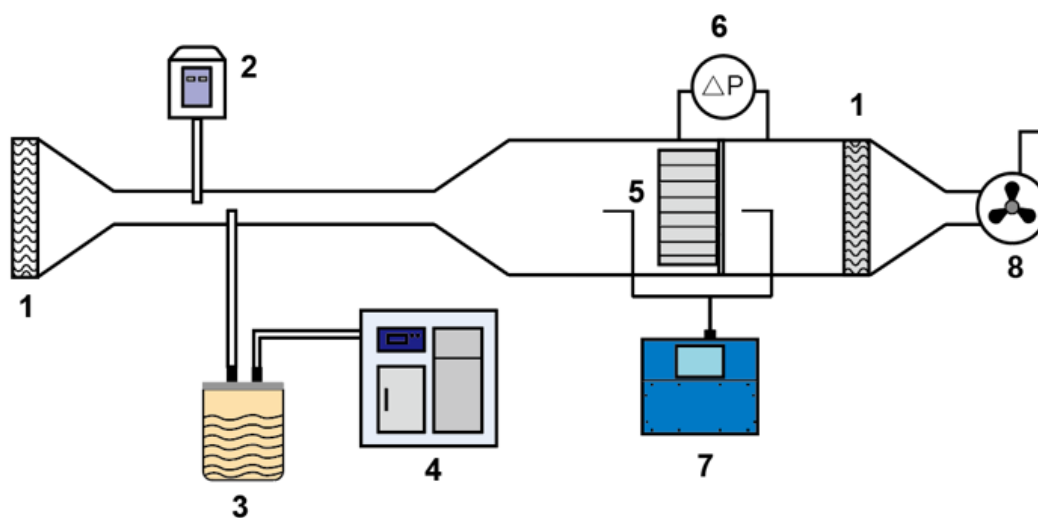


Figure S7. Schematic diagram of oil mist filter performance test device. 1 - High-efficiency air filter; 2 - Flow meter; 3 - Oil mist generator; 4 - Air compressor; 5 - Filter under test; 6 - Differential pressure gauge; 7 - Photometer; 8 - Vacuum fan.

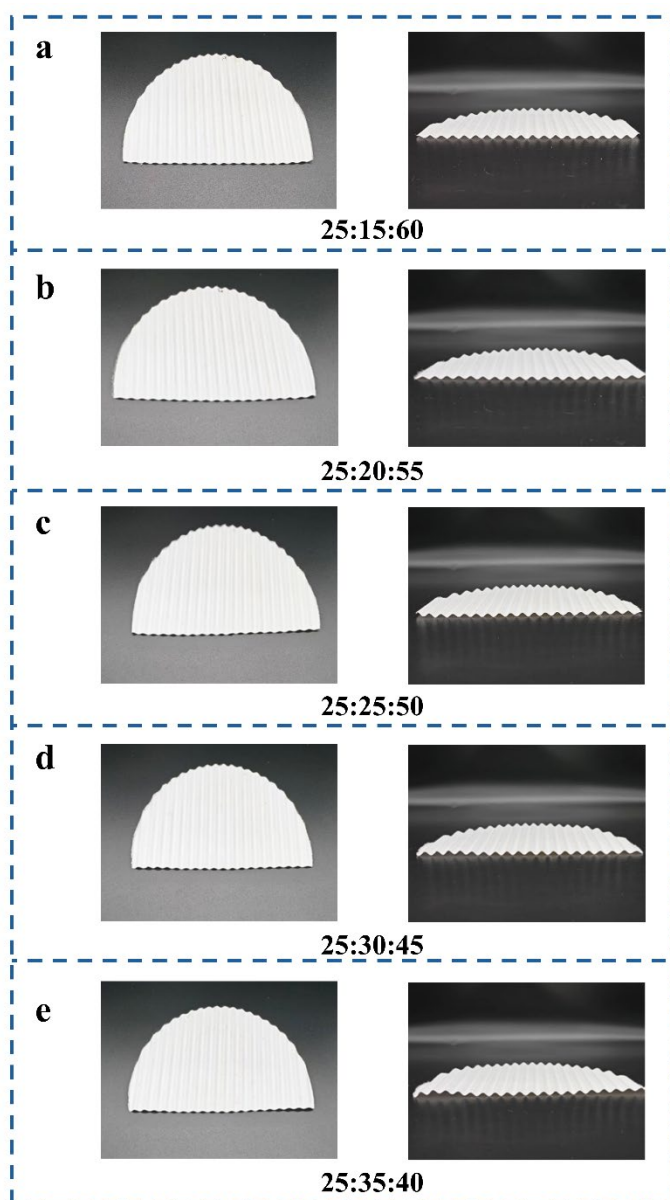


Figure S8. Photographs of corrugated-pleat-processed glass wool fiber/Tencel fiber blends with different blending ratios. (glass wool fiber 79 : glass wool fiber 59 : Tencel fiber, by ratio).

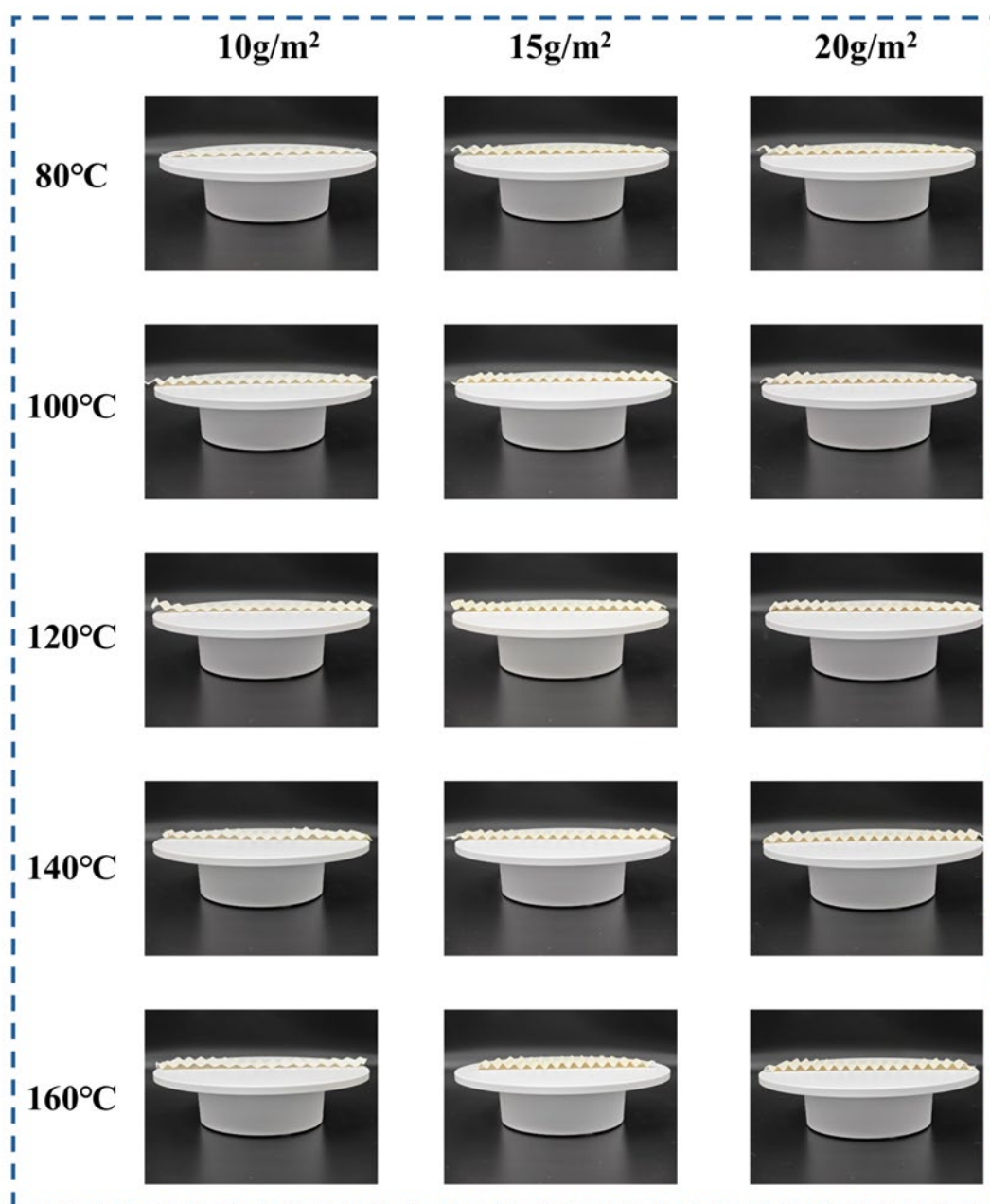


Figure S9. Photographs of composite filter media with three basis weight surface layers after pleating processing at different temperatures.