PATENT CLAIMS

1. Composite multi-layer textile (1), comprising at least one nanofibre layer (11) with nanofibres with diameters below 100 nm and one support layer (12) with microfibres with diameters below five microns, wherein the layers (11, 12) were produced by electrospinning and the multi-layer textile (1) shows an overall transmittance (T%) at λ = 555 nm greater than 50%,

   characterized in that

   the at least one nanofibre layer (11) and the support layer (12) are fused, forming solid domains (Ds) in the multi-layer textile (1), at closed areas of a pattern used in the production process, wherein the solid domains (Ds) are separated from each other or connected, showing defined shapes, with regular or irregular spatial distribution, while the fibre morphology of nanofibres of the nanofibre layer (11) and microfibres of support layer (12) is preserved on top of the open areas beside the solid domains (Ds), attaining an overall transmittance of the entire multi-layer textile (1) greater than that given by the sum of the individual layers (11, 12), and

   wherein the pattern of solid domains (Ds) on the multi-layer textile (1) has a value between 30% and 70% of the total surface of the multi-layer textile (1).

2. Composite multi-layer textile (1) according to claim 1, wherein the multi-layer textile (1) comprises a pattern layer (13) with a pattern (130) of closed and open areas, on top or bottom of the dual layer (11, 12) and the solid domains (Ds) are formed at contact positions of the nanofibre layer (11), the support layer (12) and the patterned layer (13).

3. Composite multi-layer textile (1) according to claim 1, wherein the multi-layer textile (1) comprises a nanofibre layer (11) sandwiched between two outer support layer (12, 12'), showing solid domains (Ds) at fused position of all three layers (11, 12, 12').

4. Composite multi-layer textile (1) according to claim 2, wherein the patterned layer (13) is fused sandwiched between two pairs of a nanofibre layer (11, 11') and support layer (12, 12').

5. Composite multi-layer textile (1) according to one of the preceding claims, wherein the solid domains (Ds) are formed as contact areas, connecting nanofibre layer (11, 11'), support layer (12, 12') and if available the patterned layer (13), showing thicknesses between 1 µm and 100 µm.

6. Composite multi-layer textile (1) according to one of the preceding claims, wherein the solid domains (Ds) show maximal lateral widths between 10 µm and 100 µm at its widest points.

7. Composite multi-layer textile (1) according to one of the claims 2 to 6, wherein the transversely thickness of the patterned layer (13) varies between 1 µm and 100 µm and the patterned layer (13) is based on a woven polymeric mesh.

8. Composite multi-layer textile (1) according to one of the claims 2 to 6, wherein the transversely thickness of the patterned layer (13) varies between 1 µm and 100 µm and is formed by a thermoplastic material with a number of through holes as openings and a lattice-like structure as connection webs, while at least 30% of the total surface of the thermoplastic material is open.

9. Composite multi-layer textile (1) according to one of the preceding claims, wherein the nanofibre layer (11, 11') comprises chitosan/polycaprolactone nanofibres and the support layer (12, 12') comprises polyester/polyurethane microfibres.

10. Use of a multi-layer textile (1, 1', 1", 1"') according to one of the claims 1 to 9 as part of a facial mask as a medical device and/or as personal protective equipment.