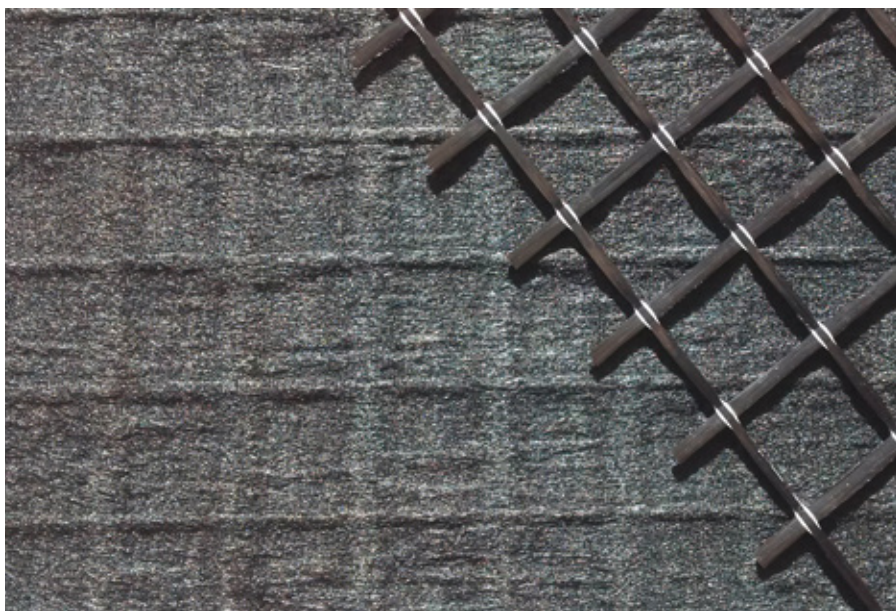


R&D Materials – preliminary data sheet

Textile based hybrid materials

Non-wovens reinforced with carbon fiber based grid



↑ Textile hybrid material with C-Fiber SIGRATEX Grid for reinforcement

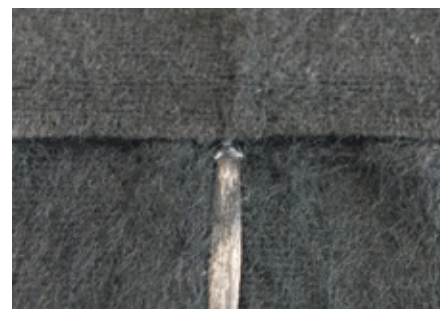
Non-woven materials based on oxidized PAN fibers (PANOX®) can be manufactured by consolidation of two or more carded webs. This process makes it possible to reinforce the non-woven with a defined structure. By incorporation of a carbon fiber based grid (SIGRATEX Grid®) a hybrid textile material is obtained showing a high mechanical strength and a good chemical stability.

These properties make the semi-finished product suitable for use as advanced electrode material, as filter material or as catalyst carrier.

By varying the fabrication process e.g. the thermal post treatment, the chemical stability, the electrical resistivity and the max. application capability can be further adjusted.

Material data of reinforced non-woven material (preliminary)

Properties	Units	Example-1	Example-2	Example-3
Construction		PANOX/C	C/C	C/C
Chemical stability		good	high	excellent
Thickness (with grid)	[5 PSI] mm	3.5	3.4	3.4
Thickness (non-woven only)	[5 PSI] mm	3.0	2.9	2.9
Area weight	g/m ²	800	680	640
Tensile strength	dN/cm	125		
In plane electric resistance (non-woven only)	Ωmm			< 3
[Max.] Application temperature	°C	200	250	300



↑ Example of non-woven with reinforcement structure

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