SIGRACELL® battery felts

Virgin and thermal activated electrodes made from carbon and graphite felt

SIGRACELL battery felts are used in advanced batteries such as redox flow or NaNiCl batteries. SIGRACELL combines excellent chemical resistance and inertness with high porosity and good electrical conductivity.

Features

- Excellent electrical conductivity
- High chemical resistance
- High open porosity
- High purity
- Good elasticity
- Available in large dimensions
- On demand: SGL Carbon thermal felt activation

↑ SIGRACELL carbon and graphite felt

Virgin felt types without thermal activation

Typical properties	Units	KFD 2.5 EA	GFD 2.5 EA	GFD 4.65 EA
Carbon fiber precursor		PAN	PAN	PAN
Bulk density	g/cm³	0.1	0.09	0.09
Nominal thickness	mm	2.5	2.5	4.6
Area weight	g/m²	250	250	465
Open porosity	%	> 90	94	94
BET surface area	m²/g	0.6	0.4	0.4
Electrical resistivity ⊥	Ωmm	< 30	< 5	< 5
Electrical resistivity ∥	Ωmm	< 10	< 3	< 3
Area-specific resistance* ⊥	Ωcm²	< 0.2	< 0.1	< 0.15
Total impurities	%	< 0.6	< 0.05	< 0.05

∥ parallel to longitudinal direction of felt; ⊥ vertical to longitudinal direction of felt; *compression to 80 % of initial thickness

By applying SGL Carbon thermal felt activation, BET surface area as well as overall cell performance increases significantly. Further SIGRACELL is a textile product with options for variation thickness and area weight. Please contact us before designing your battery system to discuss needed specifications.

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