MÜHLEN SOHN

FLUITEX®

AIRSLIDE FABRICS

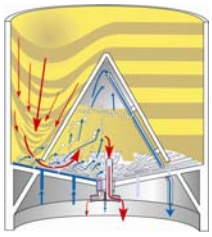
FLUITEX Fabrics

Areas of Use

Air permeable fabrics are used in different industries and various fields of application. They are employed in equipment and plants with pneumatic conveyors for discharging or homogenizing powdered or granular bulk materials.

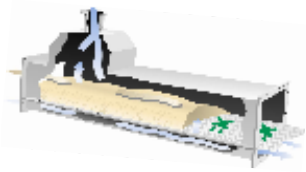
Airslide fabrics are used in different industries:

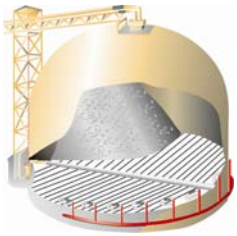
Power Stations	filtered dust flue ash, discharging flue ash coal dust
Building and Construction	cement, furnance dust, gypsum, limestone, finely ground quartz, calcium hydroxide, lead monoxide, burnt lime, acid crystals, pure clay, phosphates, magnesite concentrate, finely ground fluorid, production of aluminum
Chemical Industry	Thomas meal (Fertilizer) rubber compounds, sinter dust, catalysts sodium sulfate wash powder
Foodstuff / Feed	flour products, semolina feed
Surface Coating	synthetic granulates, powder coatings



Airslide fabrics are used in various kinds of machinery:

Silos / Tanks	discharging systems warehouse units mixing equipment homogenizing systems
Chute Bottoms	conveyor systems ventilator systems aeration systems
Vehicles	silo truck discharging cones railway wagon discharging cones vessel aeration & discharging bottoms container aeration & discharging bottoms





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FLUITEX Fabrics

Technical Information

Since many decades the Mühlen Sohn company produces FLUITEX airslide fabrics. We collected experiences in all fields of application and developed our fabrics to be applicable to all typical problems. Mainly the selection of high quality raw materials and the weaving structure result in good production characteristics of the FLUITEX fabrics and in fluent, disturbless pneumatic conveying of bulk materials. Experiences in field application and results of material tests are reasonable data to be converted into new fabrics developments and weaving techniques. Most important is an equal weaving structure of the fabrics in width and length. Our quality programme and DIN ISO 9001 certification are ensuring that every produced square meter of each fabric type has the same specified characteristics. Our product range encloses suitable airslide fabrics for most present applications. But we are also able to weave fabrics refering to our customer's demands for air permeability and density.
Applications are possible on temperature levels between – 60°C and + 300°C and some fabrics are especially acid and alkali resistant. The airslide fabrics are made out of PES, Meta-Aramid and Para-Aramid yarns. If there are problems with static charges the FLUITEX programme includes a special polyester fabric with inwoven antistatic fibres, to deconduct static charge.

Main criteria for choice of fabrics type

fabrics	material	temperature	chemical resistance
Fluitex E	PES	-60 to 150 °C	like PES fibres
Fluitex EX	PES + antistatic fibres	-60 to 150 °C	like PES fibres
Fluitex AD	Para-Aramid (Kevlar/Twaron)	-60 to 250 °C short periods: 350 °C	acid and lye resistant
Fluitex AN	Meta-Aramid (Nomex)	-60 to 250 °C short periods: 300 °C	especially acid and lye resistant

Recommendations

description	results	your advantage
* FLUITEX fabrics are made of full synthetic smooth fibers	* no moisture absorption * no caking	* resistant to rotting and decomposition * no formation of bacteria and fungus growth * complete discharge; no bulk residues * even fluidization over the complete surface
* The weave is of smooth identical pores which promotes a self-cleaning-effect	* Constant air permeability, no caking * self-cleaning-effect of the pores and fabric surface	* continuous even transport * no transport interruptions * ideal mix / fluidization * air permeability remains exactly the same for the total life of the material
* High strength temperature treated fibers	* good resistance to abrasion	* less wear and longer life * less shrinkage at high temperatures and increased moisture during transport
* The weave structure and high density of the fabrics result in a close-woven, consistent surface	* minimum stretching * exact dimensions * high tensile strength * easy to clean	* excellent stability of dimensions during cutting and sealing of tailor-made pieces * tear and impact resistant for rough use

* if damaged during processing, Fluitex E is repairable by soldering

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FLUITEX Fabrics

Product Range and Technical Specifications

Art.-No.	Product-Name	Material	Pressure loss at 400m³/hm²	Temperature	Thick-ness DIN 53855	Width max. **	Weight ***	Tensile Strength*	
								warp	weft
			mmWg****	°C	mm	mm	g/m2	N/cm	N/cm
	Tolerance		+/-15%		+/-0,3 mm	+/-1%	+/-6%	+/-15%	+/-15%
20200002	Fluitex E 250/4	Polyester (PES)	250	-60 to 150°C short periods: 200°C	4 mm	2400	2900	4200	2500
20300003	Fluitex E 350/4		350						
20800003	Fluitex E 800/4		800						
21200003	Fluitex E 1200/4		1200						
21600003	Fluitex E 1600/4		1600						
20300004	Fluitex E 350/5	Polyester (PES)	350	-60 to 150°C short periods: 200°C	4,7 mm	2400	3700	6200	3200
20800004	Fluitex E 800/5		800						
21200004	Fluitex E 1200/5		1200						
21200004	Fluitex E 1600/5		1600						
20300005	Fluitex E 350/6	Polyester (PES)	350	-60 to 150°C short periods: 200°C	6 mm	2400	5100	7000	5000
20800005	Fluitex E 800/6		800						
21200005	Fluitex E 1200/6		1200						
21600005	Fluitex E 1600/6		1600						
20300008	Fluitex E 350/8	Polyester (PES)	350	-60 to 150°C short periods: 200°C	8 mm	2400	6500	9000	7400
20800008	Fluitex E 800/8		800						
21200008	Fluitex E 1200/8		1200						
21600008	Fluitex E1600/8		1600						

Antistatic Fabrics: Fluitex EX

20300104	Fluitex EX 350/5	Polyester with antistatic fibres	350	-60 to 150°C short periods: 200°C	4,7 mm	2400	3900	6200	3200
20800104	Fluitex EX 800/5		800						

The resistance values of Fluitex EX antistatic fabrics are: Surface ROT for front & back side <10^3 Ohm;
Passage RDT: <10^3 Ohm; Linear RST (electrode distance: 30cm) longitudinal direction <10^3 Ohm and cross direction: <10^9 Ohm

Heat and acid resistant fabrics: Fluitex AD

20300303	Fluitex AD 350/4	Para-Aramid (Kevlar/Twaron)	350 +/- 20%	-60 to 250°C short p.: 350°C	4 mm	2200	2700	3800	2000
20800303	Fluitex AD 800/4		800 +/- 20%						
20300304	Fluitex AD 350/5	Para-Aramid (Kevlar/Twaron)	350 +/- 20%	-60 to 250°C short p.: 350°C	5 mm	2200	3150	3800	4000
20800304	Fluitex AD 800/5		800 +/- 20%						

Fluitex AD fabrics are expecially heat and acid resistant and decomposition starts at approx. 450 °C

Heat and acid resistant fabrics: Fluitex AN

20300203	Fluitex AN 350/4	Meta-Aramid (Nomex)	350 +/- 20%	-60 to 250°C short p.: 300°C	4 mm	2200	2600	3800	2000
20800203	Fluitex AN 800/4		800 +/- 20%						
20300204	Fluitex AN 350/5	Meta-Aramid (Nomex)	350 +/- 20%	-60 to 250°C short p.: 300°C	5 mm	2200	4050	3800	4000
20800204	Fluitex AN 800/5		800 +/- 20%						

Fluitex AN fabrics are heat resistant and especially acid resistant.

* The tensile strength refers to a 1 cm wide strip as a basis for calculating the tensile strength of the yarns.
** Cut-to-Measure pieces are manufactured with a tolerance of 0,5 - 1,0 %.
*** Measured at room temperature.
**** 1 mmWg = 10 N/m² = 10 Pa

Deliverable measurements: goods in rolls and bales up to a length of 100 m and the max. width of each particular mentioned fabric with cut and sealed edges; furthermore all kinds of tailor-made pieces (e.g. cones, discs, etc.) may be ordered. We can adapt our fabrics to the special needs of the customer (= pressure loss, thickness, and other technical data)

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Product Range and Technical Specifications

Art.-No.	Product-Name	Material	Pressure loss at 22 ft³ / min.ft²	Temperature	Thick-ness	Width max. **	Weight ***	Tensile Strength*	
								warp	weft
			PSI	°F	inch	inch	lbs/ft²	lbs PIW	lbs PIW
	Tolerance		+/-15%		+/-0,012	+/-1%	+/-6%	+/-15%	+/-15%
20200002	Fluitex E 250/4	Polyester (PES)	0,36	-76 to 302°F short periods: 392°F	0,15	94,5	0,60	2400	1450
20300003	Fluitex E 350/4		0,5						
20800003	Fluitex E 800/4		1,14						
21200003	Fluitex E 1200/4		1,71						
21600003	Fluitex E 1600/4		2,28						
20300004	Fluitex E 350/5	Polyester (PES)	0,5	-76 to 302°F short periods: 392°F	0,185	94,5	0,76	3550	1850
20800004	Fluitex E 800/5		1,14						
21200004	Fluitex E 1200/5		1,71						
21200004	Fluitex E 1600/5		2,28						
20300005	Fluitex E 350/6	Polyester (PES)	0,5	-76 to 302°F short periods: 392°F	0,24	94,5	1,05	4000	2900
20800005	Fluitex E 800/6		1,14						
21200005	Fluitex E 1200/6		1,71						
21600005	Fluitex E 1600/6		2,28						
20300008	Fluitex E 350/8	Polyester (PES)	0,5	-76 to 302°F short periods: 392°F	0,31	94,5	1,38	5200	4250
20800008	Fluitex E 800/8		1,14						
21200008	Fluitex E 1200/8		1,71						
21600008	Fluitex E1600/8		2,28						

Antistatic Fabrics: Fluitex EX

20300104	Fluitex EX 350/5	Polyester with antistatic fibres	0,5	-76 to 302°F short periods: 392°F	0,185	94,5	0,80	3550	1850
20800104	Fluitex EX 800/5		1,14						

The resistance values of Fluitex EX antistatic fabrics are: Surface ROT for front & back side <10^3 Ohm;
Passage RDT: <10^3 Ohm; Linear RST (electrode distance: 30cm) longitudinal direction <10^3 Ohm and cross direction: <10^9 Ohm

Heat and acid resistant fabrics: Fluitex AD

20300303	Fluitex AD 350/4	Para-Aramid (Kevlar/Twaron)	0,5 +/- 20%	-76 to 482°F short p.: 662°F	0,15	86,6	0,55	2200	1150
20800303	Fluitex AD 800/4		1,14 +/- 20%						
20300304	Fluitex AD 350/5	Para-Aramid (Kevlar/Twaron)	0,5 +/- 20%	-76 to 482°F short p.: 662°F	0,19	86,6	0,65	2200	2300
20800304	Fluitex AD 800/5		1,14 +/- 20%						

Fluitex AD fabrics are expecially heat and acid resistant and decomposition starts at approx. 450 °C

Heat and acid resistant fabrics: Fluitex AN

20300203	Fluitex AN 350/4	Meta-Aramid (Nomex)	0,5 +/- 20%	-76 to 482°F short p.: 572°F	0,15	86,6	0,53	2200	1150
20800203	Fluitex AN 800/4		1,14 +/- 20%						
20300204	Fluitex AN 350/5	Meta-Aramid (Nomex)	0,5 +/- 20%	-76 to 482°F short p.: 572°F	0,19	86,6	0,83	2200	2300
20800204	Fluitex AN 800/5		1,14 +/- 20%						

Fluitex AN fabrics are heat resistant and especially acid resistant.

* The tensile strength refers to a 1 cm wide strip as a basis for calculating the tensile strength of the yarns.
** Cut-to-Measure pieces are manufactured with a tolerance of 0,5 - 1,0 %.
*** Measured at room temperature.

Deliverable measurements: goods in rolls and bales up to a length of 100 m and the max. width of each particular mentioned fabric with cut and sealed edges; furthermore all kinds of tailor-made pieces (e.g. cones, discs, etc.) may be ordered. We can adapt our fabrics to the special needs of the customer (= pressure loss, thickness, and other technical data).

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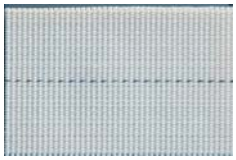
FLUITEX Fabrics

Product Range

FLUITEX® E – 4 mm thick polyester fabric



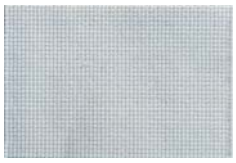
FLUITEX® E – 4,7 mm thick polyester fabric

FLUITEX® E – 4 mm thick polyester fabric with breading

FLUITEX® E – 6 mm thick polyester fabric

FLUITEX® AD – 4 mm thick heat resistant para aramid fabric

FLUITEX® AD – 5 mm thick heat resistant para aramid fabric



FLUITEX® AN – 4 or 5 mm thick heat, acid and lye resistant meta aramid fabric

FLUITEX – Ready made as a cone

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FLUITEX Fabrics

Thermal Characteristics and Chemical Resistance

Comparison date:	Meta Aramid	Para Aramid	PES	Steel
strength [MPA] 14cN/tex	610	2800	1250	500
stretching	25%	4%	14%	21%
spec. weight [g/cm³]	1,38	1,44	1,38	7,9
melting point [°C]	-	-	ca. 250	1200-1400
decomposition [°C]	370	550	-	-

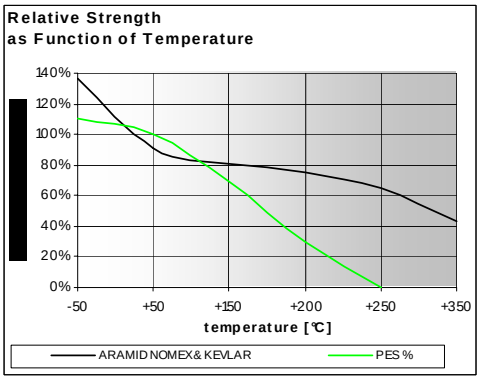
Technical characteristics of FLUITEX E fabrics

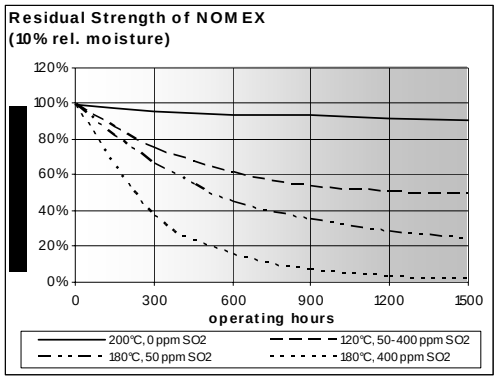
FLUITEX E fabrics are made of high strength polyester fibers. These materials are highly resistant to chemicals. With the use of steam, alkaline or acid substances their durability is reduced. The higher the temperature or concentration of chemical substances, the faster the durability of the fibers dissipates. At temperatures of ca. 100°C PES textiles have a higher resistance to acids and lye. At higher temperatures only aramid fibers may be used.

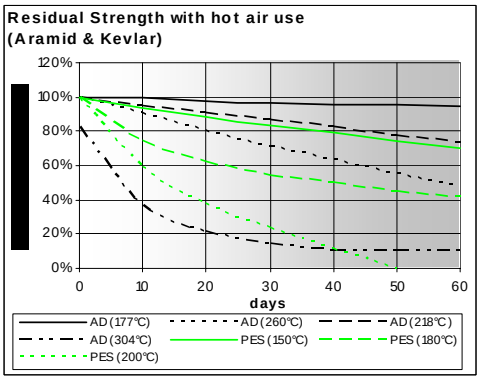
Technical characteristics of FLUITEX AN & AD fabrics

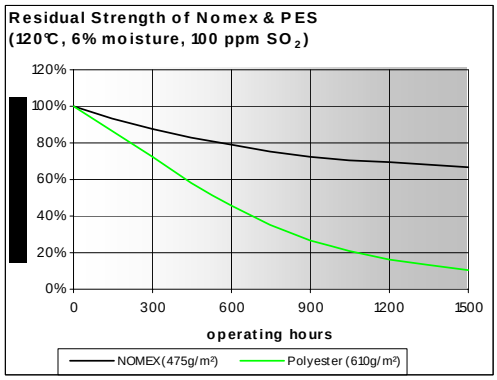
These fabrics are made of aramid fibers. Aramid fibers are resistant to high temperatures, and may be used at temperatures of 250°C and more over long periods of time. At such high temperatures it is important to allow for the fact that the durability of the fibers is reduced, they stretch more, and their resistance to acids and lye in high concentrations is significantly reduced. FLUITEX AD fabrics are made of para aramid fibers (Kevlar). These fibers are especially resistant to high temperatures. They may be used for short periods of time at temperatures up to 450°C. Decomposition begins at ca. 500°C. Resistance to hydrolysis is less than that of meta aramid fibers (Nomex). Meta aramid fibers, however, are by comparison less resistant to high temperatures . (Decomposition begins at ca. 300-350°C). Therefore, when the resistance to high temperature is more important than resistance to chemicals, FLUITEX AD is recommended. But if high resistance to chemicals is important, at temperatures up to ca. 250°C, FLUITEX AN will have a longer life.

Typical data:









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FLUITEX Fabrics

Abrasion Test Results

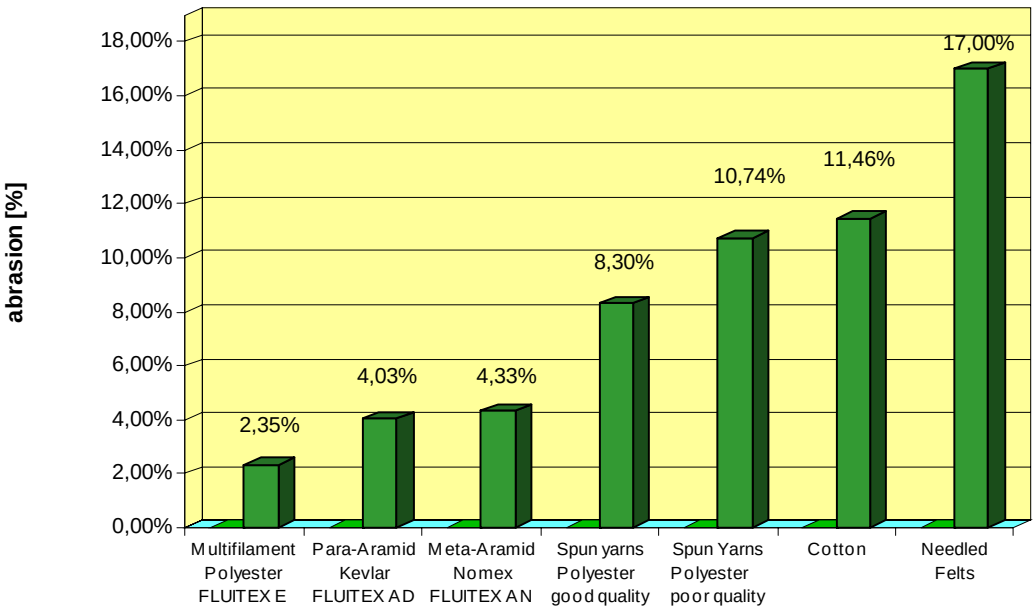
Abrasion figures are a means for measuring the durability of a fabric and they allow comparisons o the relative life expectancy of various products.

Test Conditions:

Scouring test of textiles according to DIN 53863
with the "FRANK"-Scour-Test-Unit, Type 666.

Load:	1,0 kp
Scouring tool:	"FRANK"-Abrasive Paper, grain size 280
Paper changes:	every 2000 revolutions
Quantity of Scourings:	10.000
Thickness of fabrics:	5,0 mm
Temperature:	20°C (room temperature)

Abrasion Resistance - Relative Loss of Weight / Thickness [%]



Source: Tests at the Ulm Technical College (1998)

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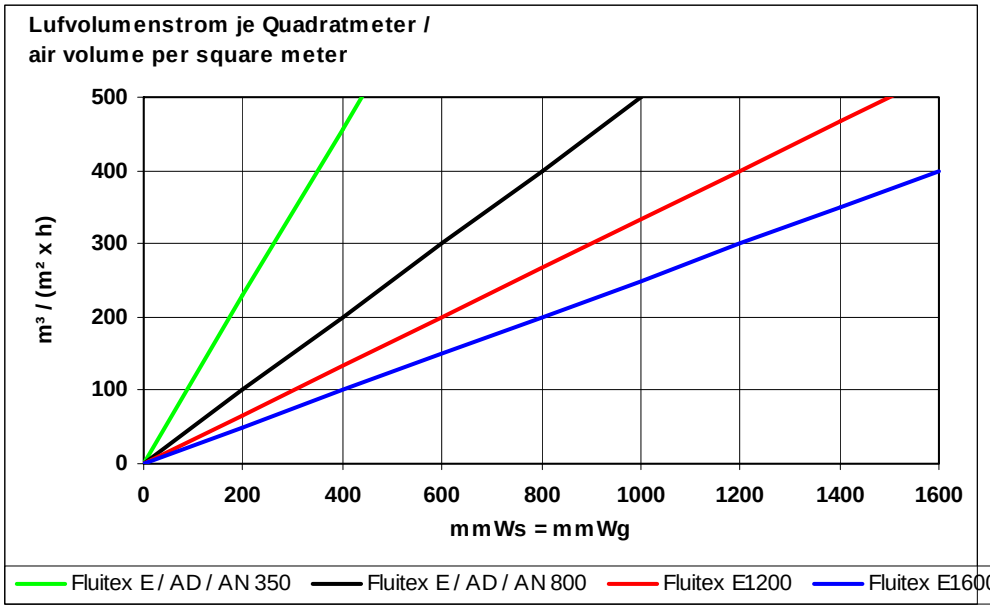
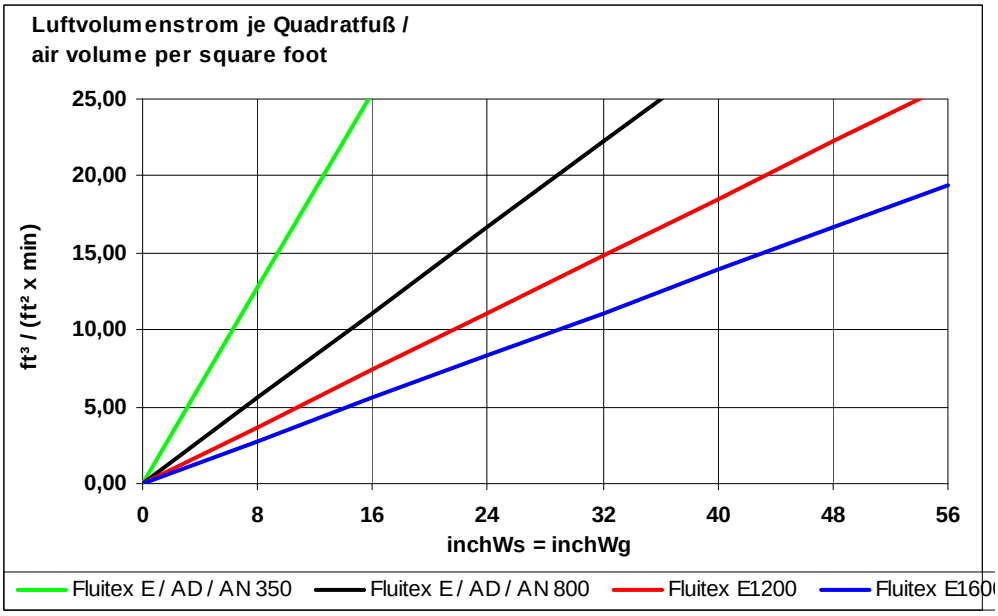
Air Permeability





Kennzeichnen Sie Ihre Werte in den Koordinaten der Graphik. Orientieren Sie sich bei der Suche nach dem notwendigen Produkt immer nach links. Der nächstliegende Gewebetyp ist für Ihre Anwendung geeignet !

Please apply your data to the sketch above. Next line to the left of your coordinates is the correct fabric for your application !

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