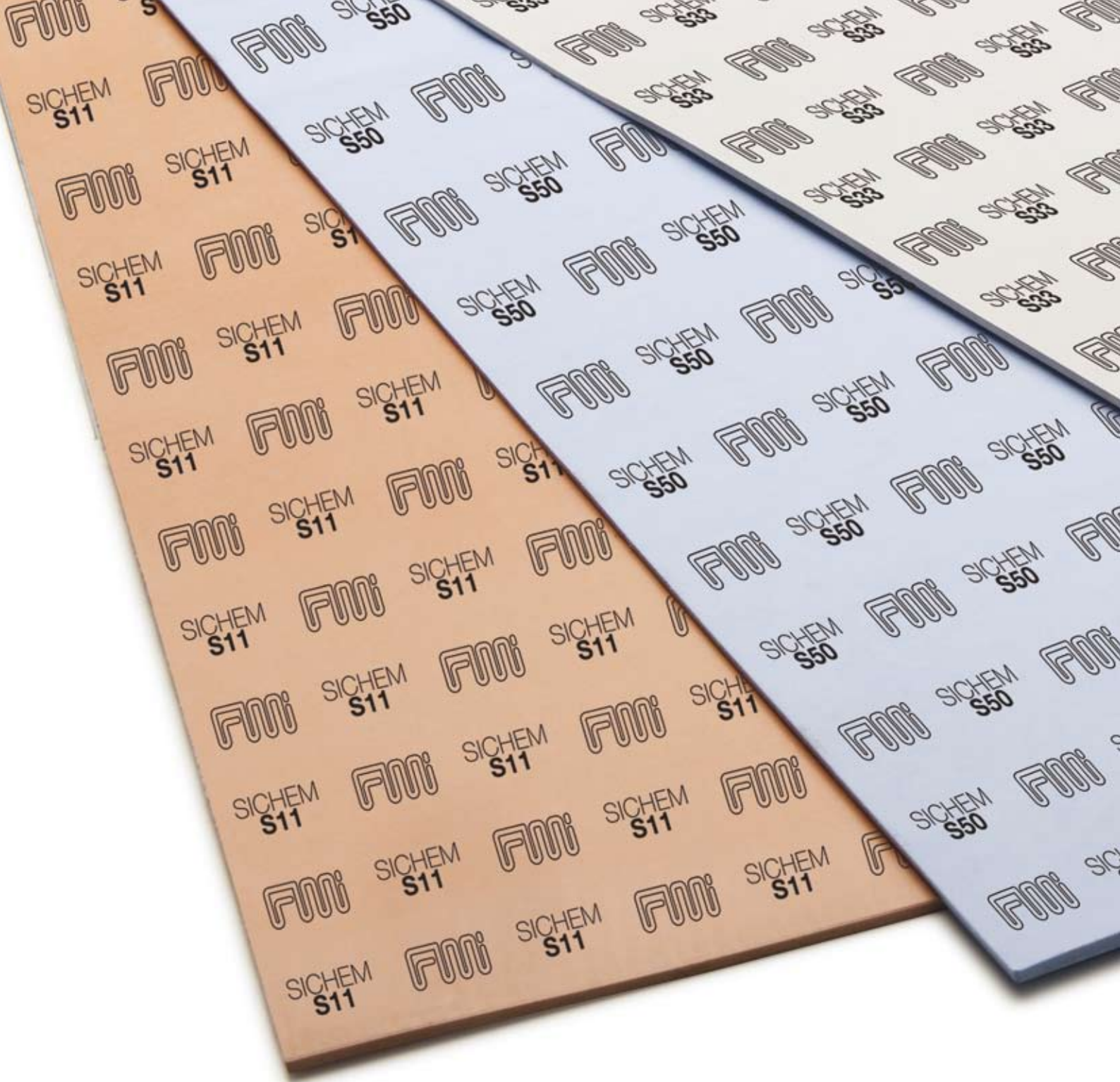




Sichem®
Biaxially-oriented PTFE sheets



FMI is an Italian manufacturing company specialised in the processing of PTFE, graphite and all the main asbestos-free materials used for the production of gasketing materials, gaskets and semi finished products of high technical value.

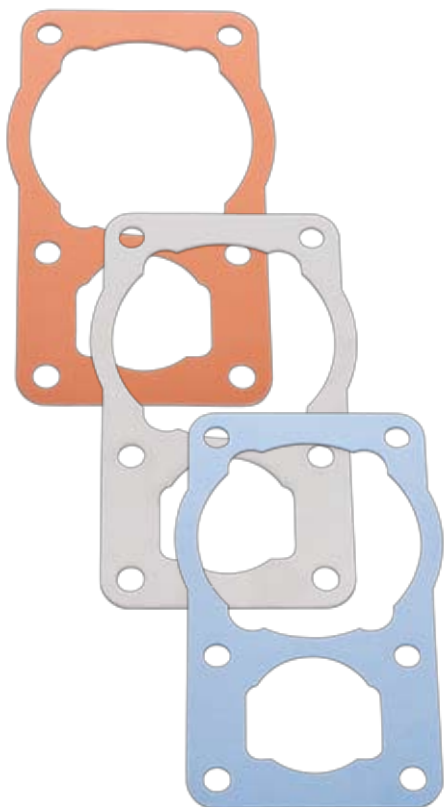
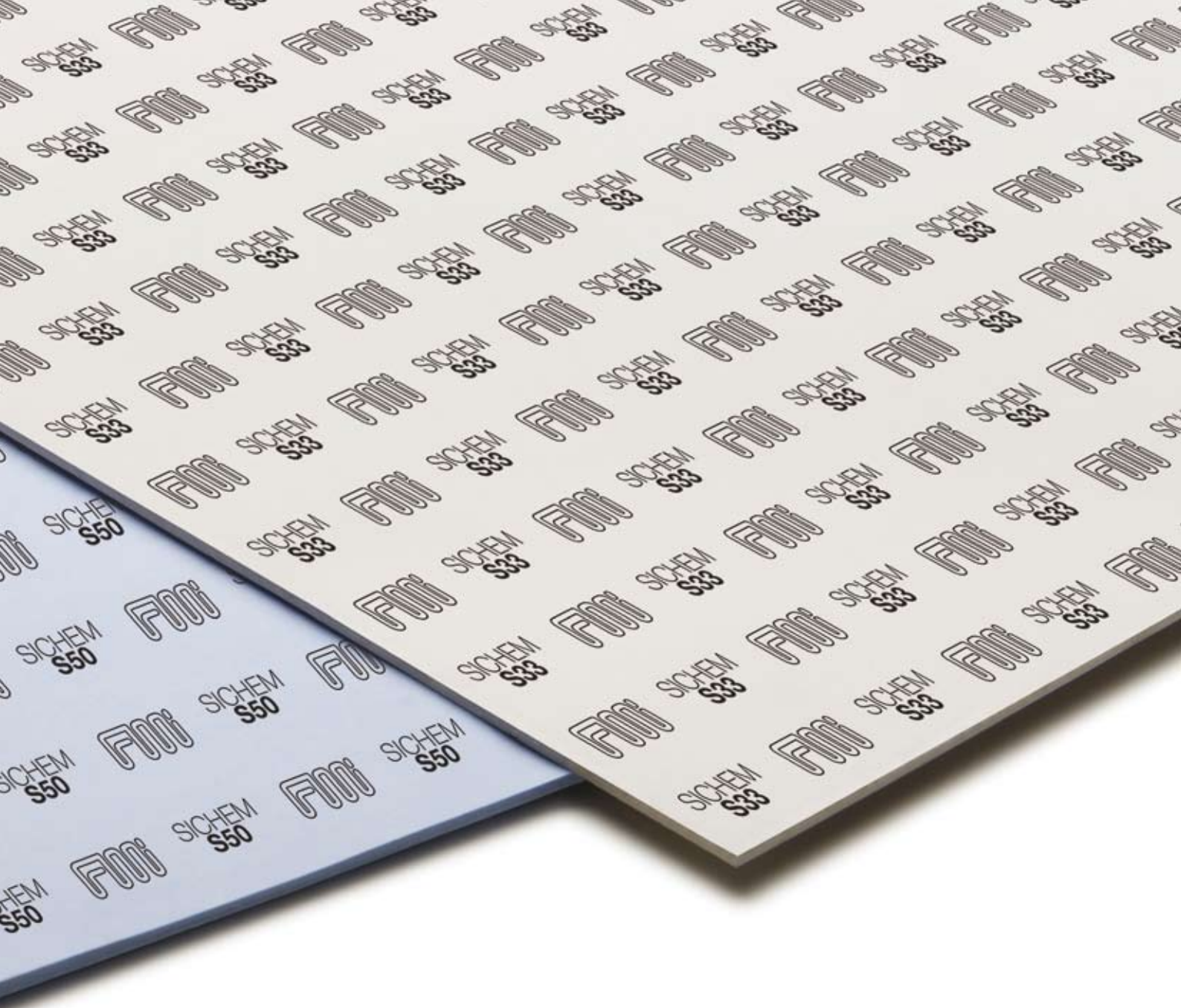
The company's current structure has resulted from progressive developments over the years which have led to the engineering of unique processing and manufacturing methods.

FMI manufactures leading-edge products and innovative solutions which are protected by international patents.

FMI's underlying goal is to provide the best quality, as certified by all major independent examination institutes.

Our products are our best guarantee suitable for all types of customers and applications, both standard and critical.

For a detailed list of approvals, please visit the dedicated area on our website www.fmi-spa.com/approvals








The SICHEM® product range is our biaxially-oriented PTFE sheet solution, combining excellent chemical resistance with optimal sealing performance.

The SICHEM® product range is developed for processes ranging from cryogenic temperatures up to +260° C and is suitable across the entire range of aggressive media (pH 0 to 14).

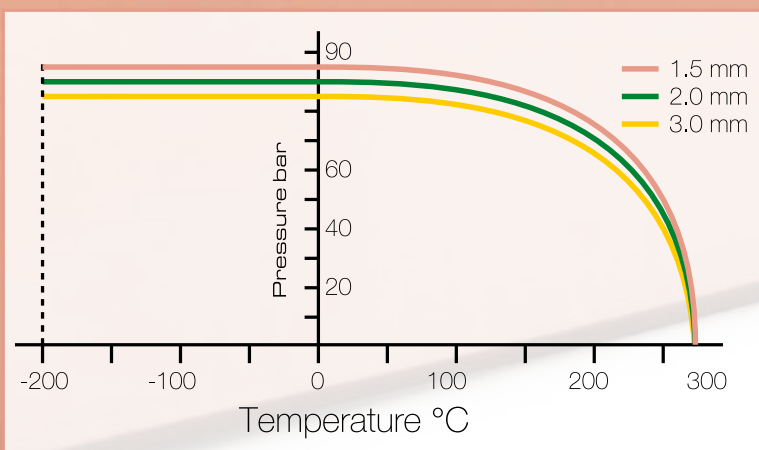
SICHEM® is the right solution to achieve the lowest creep value, and seal integrity when it is vital to achieve minimum leakage and conventional PTFE based materials are not suited.

SICHEM® range of products is a high performance biaxially oriented sheet sealing material containing modified PTFE or microcellular modified PTFE, with many different fillers to suite all the sealing across the working Ph.

SICHEM®	S11	S33	S50	S59	Diaphragm
Colour					
Composition	Modified PTFE with Silica filler	Modified PTFE with Barium sulphate filler	Modified PTFE with Hollow Glass microspheres filler	Modified PTFE with Mica filler	Pure modified PTFE
Density ASTM F 1315 (g/cm ³)	2.2	2.8	1.4	2.1	2.18
Temperature operating range (°C)	-260/+260	-260/+260	-260/+260	-260/+260	-260/+260
Max operating pressure (Bar)	80	80	50	80	Please contact FMI technical service
P x T Max. (Thk 0,8 - 2,0 mm) (Bar x °C)	12000	12000	12000	12000	-
P x T Max. (Thk 3,0 mm) (Bar x °C)	8500	8500	8500	8500	-
Leakage DIN 3535-6 (mg*s-1*m-1)	<0.05	<0.005	<0.05	<0.005	<0.005
Creep DIN 3535-6 (%)	<24	<28	<19	<42	<55
Compression DIN 3535-6 (%)	>4	>4,3	>32	>4,8	>11
Recovery DIN 3535-6 (%)	>1,7	>2,1	>7	>3,2	>5
PH range	0-14	0-14	0-14	0-14	0-14
Availability					
Sheets size (mm)	1,500x1,500 1,750x1,750	1,500x1,500 1,750x1,750	1,500x1,500 1,750x1,750	1,500x1,500 1,750x1,750	1,000x1,000 1,500x1,500
Thickness (mm)	0,75/1,0/2,0/2,5/3,0/4,0/5,0/6,0	0,75/1,0/2,0/2,5/3,0/4,0/5,0/6,0	0,75/1,0/2,0/2,5/3,0/4,0/5,0/6,0	0,75/1,0/2,0/2,5/3,0/4,0/5,0/6,0	0,75/1,0/2,0/2,5/3,0/4,0/5,0/6,0
Tollerances					
Sheets size (mm)	+/- 50	+/- 50	+/- 50	+/- 50	+/- 50
Thickness (%)	+/- 10	+/- 10	+/- 10	+/- 10	+/- 10

Specific features of SICHEM® S11

Pressure Containment and Temperature



S90	S91	S60	S58	S66	S92	S93
						
Microcellular Modified PTFE with Silica filler	Microcellular Modified PTFE with Barium sulphate filler	Microcellular Modified PTFE with Inorganic fillers	Microcellular Modified PTFE layers with Pure modified PTFE core	Microcellular Modified PTFE with SS316L tanged core	Microcellular Modified PTFE with graphite	Microcellular Modified PTFE with mica
1,35	2.0	0.85	1.3	1.2	1.45	1.2
-260/+260	-260/+260	-260/+260	-260/+260	-260/+260	-260/+260	-260/+260
70	70	80	80	170	50	50
12000	12000	12000	12000	25000	12000	12000
8500	8500	8500	8500	15000	8500	8500
<0.03	<0.005	<0.002	<0.002	<0.01	<0.005	<0.001
<14	<18	<12	<26	<5	<27	<16
>40	>35	>55	>44	>41	>42	>50
>6	>6	>5	>6.3	>6	>12	>5
0-14	0-14	0-14	0-14	0-14	0-14	0-14
1,500x1,500 1,750x1,750 <small>1,0/1,5/2,0/2,5/3,0/4,0/5,0/6,0</small>	1,500x1,500 1,750x1,750 <small>1,5/2,0/2,5/3,0/4,0/5,0/6,0</small>	1,500x1,500 1,750x1,750 <small>1,0/1,5/2,0/2,5/3,0/4,0/5,0/6,0</small>	1,500x1,500 1,750x1,750 <small>1,5/2,0/2,5/3,0/4,0/5,0/6,0</small>	1,500x1,500 <small>1,0/1,5/2,0/2,5/3,0/4,0/5,0/6,0</small>	1,500x1,500 1,750x1,750 <small>1,5/2,0/2,5/3,0/4,0/5,0/6,0</small>	1,500x1,500 1,750x1,750 <small>1,5/2,0/3,0/4,0/5,0/6,0</small>
+/- 50 +/- 10	+/- 50 +/- 10	+/- 50 +/- 10	+/- 50 +/- 10	+/- 50 +/- 10	+/- 50 +/- 10	+/- 50 +/- 10

Using a patented process, we produce materials that have special controlled microporosity and a close-cell structure. Products from the SICHEM® family achieve high compression and sealability at low bolt torque values. They are optimized for applications with irregular sealing surfaces, compromised load capacity, or replacement of envelope gaskets.



biaxially oriented structure



microcellular structure



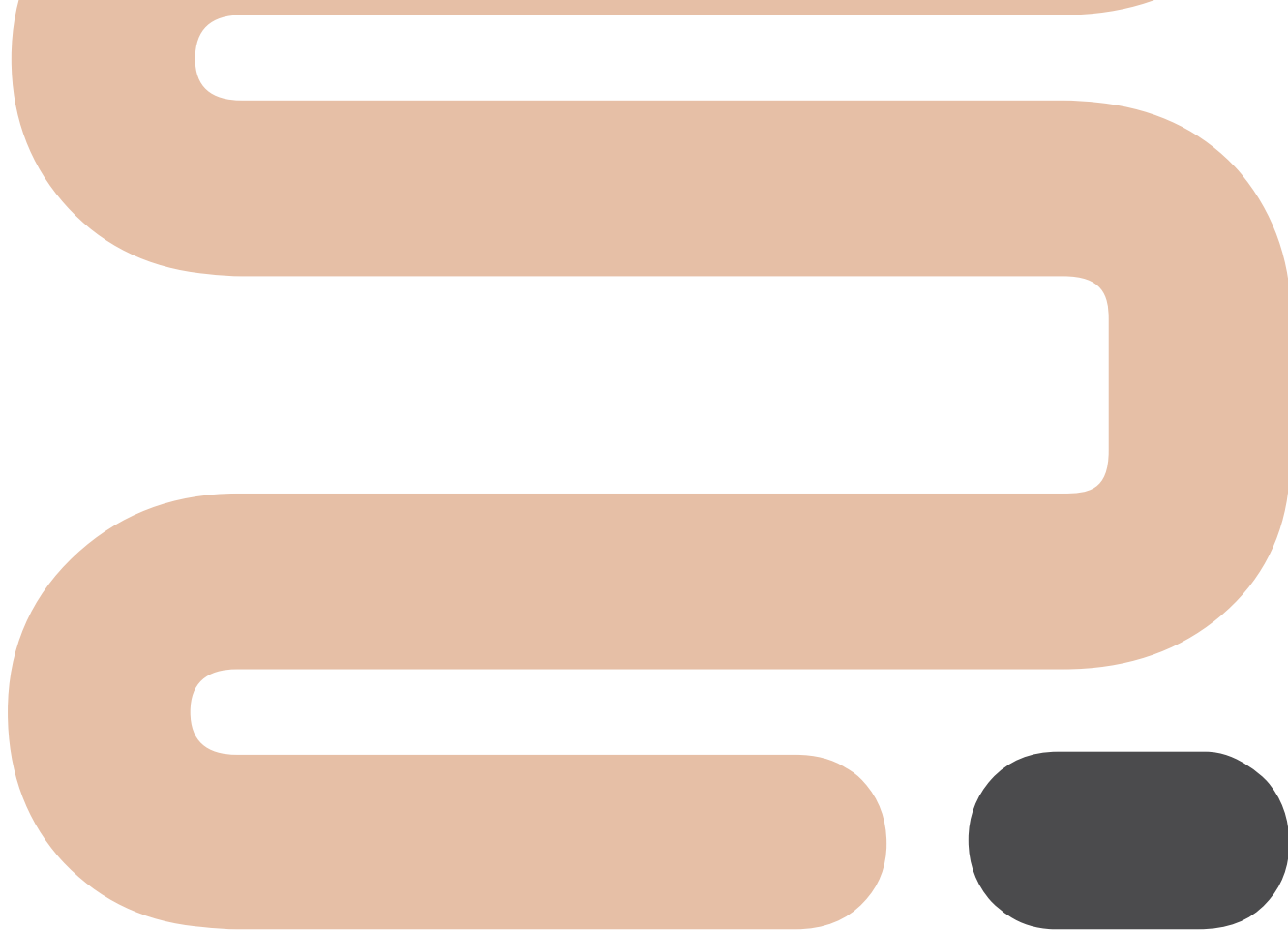
multilayers versions

Other sheet sizes and thicknesses available upon request.
Maximum temperature and pressure values cannot be used simultaneously.
Typical parameters of 2 mm thickness jointing.

Chemical compatibility guide for Slichem®



	SICHEM® S11- S90	SICHEM® S50	SICHEM® S33 - S91	SICHEM® S58 - S60	SICHEM® S59 - S93	DIAPHRAGM	SICHEM® S66		SICHEM® S11- S90	SICHEM® S50	SICHEM® S33 - S91	SICHEM® S58 - S60	SICHEM® S59 - S93	DIAPHRAGM	SICHEM® S66		SICHEM® S11- S90	SICHEM® S50	SICHEM® S33 - S91	SICHEM® S58 - S60	SICHEM® S59 - S93	DIAPHRAGM	SICHEM® S66
Acetaldehyde	●	●	●	●	●	●	●	Calcium Chloride	●	●	●	●	●	●	●	E85 (85% Ethanol, 15% Gas)	●	●	●	●	●	●	●
Acetamide	●	●	●	●	●	●	●	Calcium Cyanamide	●	●	●	●	●	●	●	Epoxybutane	●	●	●	●	●	●	●
Acetic Acid	●	●	●	●	●	●	●	Calcium Hydroxide	●	●	●	●	●	●	●	Ethane	●	●	●	●	●	●	●
Acetic Anhydride	●	●	●	●	●	●	●	Calcium Hypochlorite	●	●	●	●	●	●	●	Ethers	●	●	●	●	●	●	●
Acetone	●	●	●	●	●	●	●	Calcium Nitrate	●	●	●	●	●	●	●	Ethyl Acetate	●	●	●	●	●	●	●
Acetonitrile	●	●	●	●	●	●	●	Cane Sugar Liquors	●	●	●	●	●	●	●	Ethyl Acrylate	●	●	●	●	●	●	●
Acetophenone	●	●	●	●	●	●	●	Caprolactam	●	●	●	●	●	●	●	Ethyl Alcohol	●	●	●	●	●	●	●
Acetylaminofluorene	●	●	●	●	●	●	●	Captan	●	●	●	●	●	●	●	Ethylbenzene	●	●	●	●	●	●	●
Acetylene	●	●	●	●	●	●	●	Carbaryl	●	●	●	●	●	●	●	Ethyl Carbamate	●	●	●	●	●	●	●
Acrolein	●	●	●	●	●	●	●	Carbolic Acid, Phenol	●	●	●	●	●	●	●	Ethyl Cellulose	●	●	●	●	●	●	●
Acrylamide	●	●	●	●	●	●	●	Carbon Dioxide, Dry	●	●	●	●	●	●	●	Ethyl Chloride	●	●	●	●	●	●	●
Acrylic Acid	●	●	●	●	●	●	●	Carbon Dioxide, Wet	●	●	●	●	●	●	●	Ethyl Ether	●	●	●	●	●	●	●
Acrylic Anhydride	●	●	●	●	●	●	●	Carbon Disulfide	●	●	●	●	●	●	●	Ethyl Hexoate	●	●	●	●	●	●	●
Acrylonitrile	●	●	●	●	●	●	●	Carbon Monoxide	●	●	●	●	●	●	●	Ethylene	●	●	●	●	●	●	●
Adipic Acid	●	●	●	●	●	●	●	Carbon Tetrachloride	●	●	●	●	●	●	●	Ethylene Bromide	●	●	●	●	●	●	●
Adiponitrile	●	●	●	●	●	●	●	Carbonyl Sulfide	●	●	●	●	●	●	●	Ethylene Dibromide	●	●	●	●	●	●	●
Air	●	●	●	●	●	●	●	Castor Oil	●	●	●	●	●	●	●	Ethylene Dichloride	●	●	●	●	●	●	●
Allyl Acetate	●	●	●	●	●	●	●	Catechol	●	●	●	●	●	●	●	Ethylene Glycol	●	●	●	●	●	●	●
Allyl Chloride	●	●	●	●	●	●	●	Caustic Soda	●	●	●	●	●	●	●	Ethyleneimine	●	●	●	●	●	●	●
Allyl Methacrylate	●	●	●	●	●	●	●	Cetane (Hexadecane)	●	●	●	●	●	●	●	Ethylene Oxide	●	●	●	●	●	●	●
Aluminum Chloride	●	●	●	●	●	●	●	China Wood Oil	●	●	●	●	●	●	●	Ethylene Thiourea	●	●	●	●	●	●	●
Aluminum Fluoride	●	●	●	●	●	●	●	Chloramben	●	●	●	●	●	●	●	Ethylidene Chloride	●	●	●	●	●	●	●
Aluminum Hydroxide (Solid)	●	●	●	●	●	●	●	Chlorazotic Acid (Aqua Regia)	●	●	●	●	●	●	●	Ferric Chloride	●	●	●	●	●	●	●
Aluminium, Molten	●	●	●	●	●	●	●	Chlorinated Solvents, Dry	●	●	●	●	●	●	●	Ferric Phosphate	●	●	●	●	●	●	●
Aluminium Nitrate	●	●	●	●	●	●	●	Chlorinated Solvents, Wet	●	●	●	●	●	●	●	Ferric Sulfate	●	●	●	●	●	●	●
Aluminium Sulfate	●	●	●	●	●	●	●	Chlorine, Dry	●	●	●	●	●	●	●	Fluorine, Gas	●	●	●	●	●	●	●
Alums	●	●	●	●	●	●	●	Chlorine, Wet	●	●	●	●	●	●	●	Fluorine, Liquid	●	●	●	●	●	●	●
Aminodiphenyl	●	●	●	●	●	●	●	Chlorine Dioxide	●	●	●	●	●	●	●	Fluorine Dioxide	●	●	●	●	●	●	●
Ammonia, Gas, 70°C and below	●	●	●	●	●	●	●	Chlorine Trifluoride	●	●	●	●	●	●	●	Formaldehyde	●	●	●	●	●	●	●
Ammonia, Gas, Above 70°C	●	●	●	●	●	●	●	Chloroacetic Acid	●	●	●	●	●	●	●	Formic Acid	●	●	●	●	●	●	●
Ammonia, Liquid, Anhydrous	●	●	●	●	●	●	●	Chloroacetophenone	●	●	●	●	●	●	●	Fuel Oil	●	●	●	●	●	●	●
Ammonium Chloride	●	●	●	●	●	●	●	Chlorobenzene	●	●	●	●	●	●	●	Fuel Oil, Acid	●	●	●	●	●	●	●
Ammonium Hydroxide	●	●	●	●	●	●	●	Chlorobenzylate	●	●	●	●	●	●	●	Gasoline, Refined	●	●	●	●	●	●	●
Ammonium Nitrate	●	●	●	●	●	●	●	Chloroethane	●	●	●	●	●	●	●	Gelatin	●	●	●	●	●	●	●
Ammonium Phosphate, Monobasic	●	●	●	●	●	●	●	Chloroethylene	●	●	●	●	●	●	●	Glucose	●	●	●	●	●	●	●
Ammonium Phosphate, Dibasic	●	●	●	●	●	●	●	Chloroform	●	●	●	●	●	●	●	Glycerine, Glycerol	●	●	●	●	●	●	●
Ammonium Phosphate, Tribasic	●	●	●	●	●	●	●	Chloromethyl Methyl Ether (CMME)	●	●	●	●	●	●	●	Glycol	●	●	●	●	●	●	●
Ammonium Sulfate	●	●	●	●	●	●	●	Chloronitrous Acid (Aqua Regia)	●	●	●	●	●	●	●	Grain Alcohol	●	●	●	●	●	●	●
Amyl Acetate	●	●	●	●	●	●	●	Chloroprene	●	●	●	●	●	●	●	Grease, Petroleum Base	●	●	●	●	●	●	●
Amyl Alcohol	●	●	●	●	●	●	●	Chlorosulfonic Acid	●	●	●	●	●	●	●	Green Sulfate Liquor	●	●	●	●	●	●	●
Aniline, Aniline Oil	●	●	●	●	●	●	●	Chromic Acid	●	●	●	●	●	●	●	Heptachlor	●	●	●	●	●	●	●
Aniline Hydrochloride	●	●	●	●	●	●	●	Chromic Anhydride	●	●	●	●	●	●	●	Heptane	●	●	●	●	●	●	●
Aniline Dyes	●	●	●	●	●	●	●	Chromium Trioxide	●	●	●	●	●	●	●	Hexachlorobenzene	●	●	●	●	●	●	●
Anisidine	●	●	●	●	●	●	●	Citric Acid	●	●	●	●	●	●	●	Hexachlorobutadiene	●	●	●	●	●	●	●
Antimony trichloride	●	●	●	●	●	●	●	Coke Oven Gas	●	●	●	●	●	●	●	Hexachlorocyclopentadiene	●	●	●	●	●	●	●
Aqua Regia	●	●	●	●	●	●	●	Copper Chloride	●	●	●	●	●	●	●	Hexachloroethane	●	●	●	●	●	●	●
Aroclors or Arochlor	●	●	●	●	●	●	●	Copper Sulfate	●	●	●	●	●	●	●	Hexadecane	●	●	●	●	●	●	●
Aromatic Hydrocarbons	●	●	●	●	●	●	●	Corn Oil	●	●	●	●	●	●	●	Hexamethylene Diisocyanate	●	●	●	●	●	●	●
Arsenic Acid	●	●	●	●	●	●	●	Cotton Seed Oil 10	●	●	●	●	●	●	●	Hexamethylphosphoramide	●	●	●	●	●	●	●
Arsenous Acid	●	●	●	●	●	●	●	Creosote	●	●	●	●	●	●	●	Hexane	●	●	●	●	●	●	●
Asphalt	●	●	●	●	●	●	●	Cresols, Cresylic Acid	●	●	●	●	●	●	●	Hydrex	●	●	●	●	●	●	●
Aviation Gasoline	●	●	●	●	●	●	●	Crotonic Acid	●	●	●	●	●	●	●	Hydrobromic Acid	●	●	●	●	●	●	●
Barium Chloride	●	●	●	●	●	●	●	Crude Oil	●	●	●	●	●	●	●	Hydrochloric Acid	●	●	●	●	●	●	●
Barium Hydroxide	●	●	●	●	●	●	●	Cumene	●	●	●	●	●	●	●	Hydrochloric Acid, dry	●	●	●	●	●	●	●
Barium Sulfide	●	●	●	●	●	●	●	Cyclohexane	●	●	●	●	●	●	●	Hydrochloric Acid 20%	●	●	●	●	●	●	●
Baygon	●	●	●	●	●	●	●	Cyclohexanol	●	●	●	●	●	●	●	Hydrocyanic Acid	●	●	●	●	●	●	●
Beer	●	●	●	●	●	●	●	Cyclohexanone	●	●	●	●	●	●	●	Hydrofluoric Acid, Anhydrous	●	●	●	●	●	●	●
Benzaldehyde	●	●	●	●	●	●	●	Diazomethane	●	●	●	●	●	●	●	Hydrofluoric Acid, Less than 65% Above 70°C	●	●	●	●	●	●	●
Benzene, Benzol	●	●	●	●	●	●	●	Dibenzofuran	●	●	●	●	●	●	●	Hydrofluoric Acid, 65% to Anhydrous Above 70°C	●	●	●	●	●	●	●
Benzene Sulphonic Acid	●	●	●	●	●	●	●	Dibenzylether	●	●	●	●	●	●	●	Hydrofluoric Acid, Up to Anhydrous, 70°C & below	●	●	●	●	●	●	●
Benzidine	●	●	●	●	●	●	●	Dibromo chloropropane	●	●	●	●	●	●	●	Hydrofluosilicic Acid	●	●	●	●	●	●	●
Benzoic Acid	●	●	●	●	●	●	●	Dibutyl Phthalate	●	●	●	●	●	●	●	Hydrofluosilicic Acid	●	●	●	●	●	●	●
Benzonitrile	●	●	●	●	●	●	●	Dibutyl Sebacate	●	●	●	●	●	●	●	Hydrogen	●	●	●	●	●	●	●
Benzoquinones	●	●	●	●	●	●	●	Dichlorobenzene	●	●	●	●	●	●	●	Hydrogen Bromide	●	●	●	●	●	●	●
Benzotrichloride	●	●	●	●	●	●	●	Dichlorobenzidene	●	●	●	●	●	●	●	Hydrogen Fluoride	●	●	●	●	●	●	●
Benzoyl Chloride	●	●	●	●	●	●	●	Dichloroethane	●	●	●	●	●	●	●	Hydrogen Peroxide, 10%	●	●	●	●	●	●	●
Benzyl Alcohol	●	●	●	●	●	●	●	Dichloroethylene	●	●	●	●	●	●	●	Hydrogen Peroxide, 10-90%	●	●	●	●	●	●	●
Benzyl Chloride	●	●	●	●	●	●	●	Dichloroethyl Ether	●	●	●	●	●	●	●	Hydrogen Sulfide, Dry or Wet	●	●	●	●	●	●	●
Bio-diesel (B100)	●	●	●	●	●	●	●	Dichloromethane	●	●	●	●	●	●	●	Hydroquinone	●	●	●	●	●	●	●
Biphenyl	●	●	●	●	●	●	●	Dichloropropane	●	●	●	●	●	●	●	Iodine Pentafluoride	●	●	●	●	●	●	●
Bis(2-chloroethyl)ether	●	●	●	●	●	●	●	Dichloropropene	●	●	●	●	●	●	●	Iodomethane	●	●	●	●	●	●	●
Bis(chloromethyl)ether	●	●	●	●	●	●	●	Dichlorvos	●	●	●	●	●	●	●	Isobutane	●	●	●	●	●	●	●
Bis(2-ethylhexyl)phthalate	●	●	●	●	●	●	●	Diesel Oil	●	●	●	●	●	●	●	Isocetane	●	●	●	●	●	●	●
Black Sulfate Liquor	●	●	●	●	●	●	●	Diethanolamine	●	●	●	●	●	●	●	Isophorone	●	●	●	●</			



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