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Global leader in engineering plastics

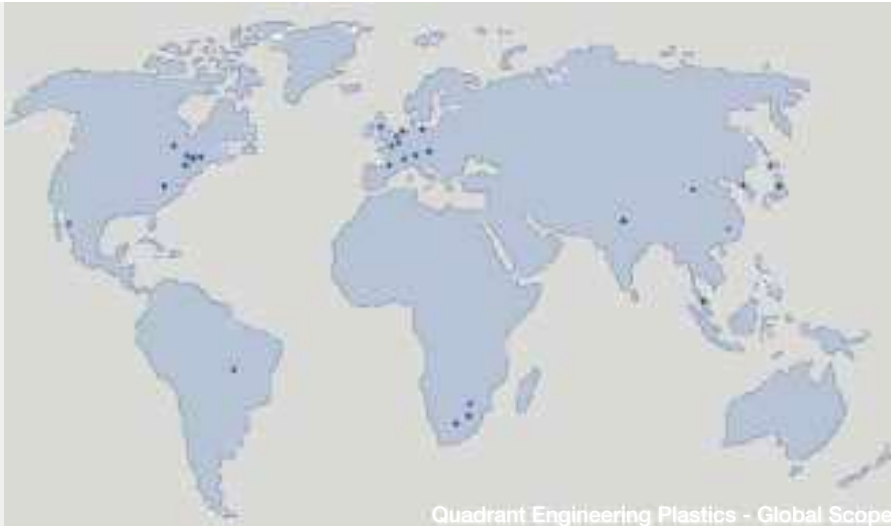
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QUADRANT

You inspire ... we materialize®

# YOU INSPIRE ... WE MATERIALIZE



## **Quadrant history**

The first engineering polymer shapes for machining.

## **Quadrant today**

The broadest range of engineering polymer shapes allowing the most effective material choice.

## **Quadrant tomorrow**

New products for new needs, developed by QEPP's global product and application development team.

For over 60 years, the companies that today form Quadrant have been developing new materials to meet changing demands of customers around the world. The innovative, collaborative spirit between our people and our customers has shaped our success and led to the industry's broadest range of engineering plastic shapes for machining and materials for lining applications. Our investment in innovation will only increase in the years ahead, to support your requirements for higher levels of performance, productivity and value.

# DELIVERY PROGRAMME SYMALIT®

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# SYMALIT® PVDF 1000

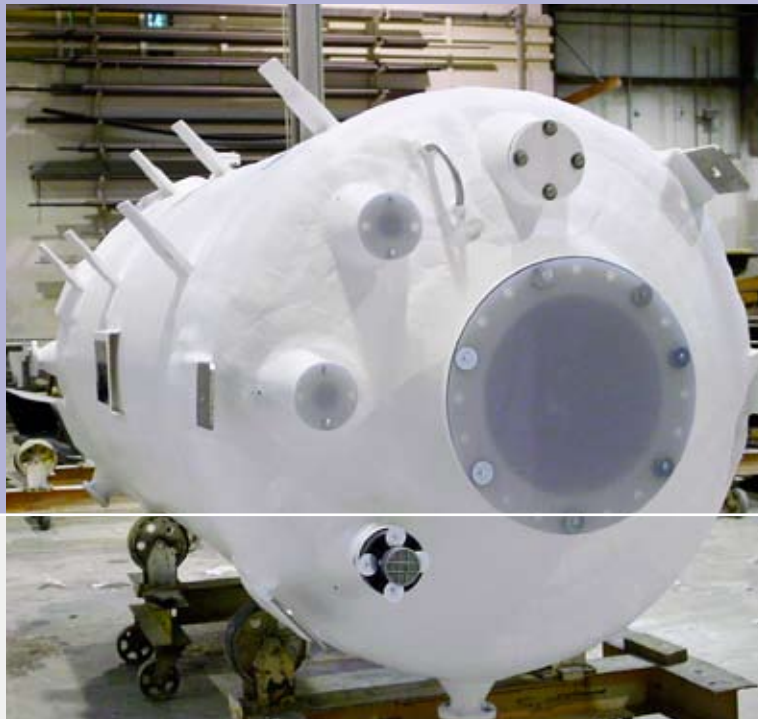
POLYVINYLENE FLUORIDE [PVDF]

## Main characteristics

- Service temperature range from -40 °C up to +150 °C [-40 °F up to +302 °F]
- Very good chemical resistance [neutral and acidic media]
- High mechanical rigidity
- Resistance to UV-,  $\beta$ - and  $\gamma$ -rays
- Excellent resistance to abrasion
- Excellent ageing stability
- Suitable for high purity and food applications
- Anti-static grade available [PVDF ESD]
- High dielectric and piezoelectric values
- Natural (white)

## Typical applications

Lining of reactors, tanks and containers for chemicals, semiconductor process equipment, food applications, corrosion-resistant mechanical support structures.



# SYMALIT® PVDF 1000

SYMALIT® PVDF 1000 NATURAL

## ROUND RODS

Diameters <sup>[1]</sup>	Standard length per piece				
	[mm]	[1000 mm]		[3000 mm]	
	[kg/pce <sup>[2]</sup> ]		[€/pce]	[kg/pce <sup>[2]</sup> ]	[€/pce]
10	0.151	■	8.46	0.453	25.40
12	0.220	□	12.32	0.660	36.95
16	0.384	■	21.50	1.152	64.50
18	0.483	□	27.05	1.449	81.15
20	0.595	■	33.32	1.785	99.95
22	0.720	□	40.32	2.160	120.95
25	0.925	■	51.80	2.775	155.40
30	1.320	■	73.92	3.960	221.80
32	1.510	□	84.56	4.530	253.70
36	1.910	■	106.96	5.730	320.90
40	2.340	■	131.04	7.020	393.10
45	2.980	■	166.88	8.940	500.65
50	3.660	■	204.96	10.980	614.90
60	5.270	■	295.12	15.810	885.40
70	7.140	■	399.84	21.420	1'199.50
80	9.360	■	524.16	28.080	1'572.50
90	11.850	■	663.60	35.550	1'990.80
100	14.650	■	820.40	43.950	2'461.20
110	17.750	□	994.00	53.250	2'982.00
120	21.150	■	1'184.40	63.450	3'553.20
130	24.850	□	1'391.60	74.550	4'174.80
140	28.750	□	1'610.00	86.250	4'830.00
150	33.050	■	1'850.80	99.150	5'552.40
165	38.775	□	2'171.40	116.325	6'514.20
180	47.350	■	2'651.60	142.050	7'954.80
200	58.700	■	3'287.20	176.100	9'861.60
250	91.450	■	5'121.20	274.350	15'363.60

HP [High Purity] grades available upon request.

<sup>[1]</sup>: tolerances according to DIN 16980

<sup>[2]</sup>: average production weights

- : **standard** item [generally available from stock; large quantities may have to be manufactured to order]
- : **non-standard** item [generally not available from stock but manufactured to order and subject to special conditions]

Other dimensions can be manufactured on request.

# SYMALIT® PVDF 1000

SYMALIT® PVDF 1000 NATURAL

## SHEETS/PLATES CALANDERED

Thicknesses <sup>[1]</sup>	Standard size per piece				
	[mm]	[1500 x 3000 mm]			[1250 x 2000 mm]
	[kg/pce <sup>[2]</sup> ]		[€/pce]	[kg/pce <sup>[2]</sup> ]	[€/pce]
0.8	6.858	□	441.65	3.810	245.35
1	8.460	□	544.85	4.700	302.70
1.5	12.398	□	798.40	6.888	443.55
2	17.325	□	1'115.75	9.625	619.85
3	24.750	□	1'386.00	13.750	770.00
4	33.210	□	1'859.75	18.450	1'033.20
5	41.220	□	2'324.70	22.900	1'291.50
6	48.915	□	2'789.65	27.175	1'549.80
8	65.565	□	3'719.55	36.425	2'066.40
10	82.935	□	4'649.40	46.075	2'583.00
12	98.100	□	5'579.30	54.500	3'099.60
15	–		–	73.000	3'874.50
20	–		–	97.333	5'166.00
25	–		–	121.667	6'457.50

HP [High Purity] grades available upon request.

<sup>[1]</sup>: Tolerances according to ISO/DIS 15014 and DIN 16986

<sup>[2]</sup>: average production weights

## SHEETS/PLATES CALANDERED FM4910 APPROVED

Thicknesses <sup>[1]</sup>	Standard size per piece		
	[mm]	[kg/pce <sup>[2]</sup> ]	[€/pce]
3.18	17.460	□	1'047.60
4.76	25.800	□	1'548.00
6.35	35.940	□	2'156.40
9.53	52.920	□	3'175.20
12.70	69.600	□	4'802.40
15.88	86.430	□	5'963.70
19.05	103.200	□	7'120.80
25.40	136.860	□	9'443.35

HP [High Purity] grades available upon request.

<sup>[1]</sup>: Tolerances according to ASTM D6713-01

<sup>[2]</sup>: average production weights

■: **standard** item [generally available from stock; large quantities may have to be manufactured to order]

□: **non-standard** item [generally not available from stock but manufactured to order and subject to special conditions]

Other dimensions can be manufactured on request.

# SYMALIT® PVDF 1000

SYMALIT® PVDF 1000 NATURAL

## PLATES

Thicknesses <sup>[1]</sup> [mm]	Standard sizes per piece [610 x 1000 mm]		
	[kg/pce <sup>[2]</sup> ]		[€/pce]
8	9.610	□	538.15
10	11.850	■	663.60
12	14.600	■	817.60
16	19.100	■	1'069.60
20	23.700	■	1'327.20
25	29.300	■	1'640.80
30	36.250	■	2'030.00
40	47.500	■	2'660.00
50	58.700	■	3'287.20
60	70.800	■	3'964.80
70	82.050	□	4'594.80
80	94.550	■	5'294.80
90	105.800	□	5'924.80
100	117.000	□	6'552.00
<b>Other standard size: 610 x 3000 mm</b>			

<sup>[1]</sup>: Tolerances according to DIN 16986

<sup>[2]</sup>: average production weights

■: **standard** item [generally available from stock; large quantities may have to be manufactured to order]

□: **non-standard** item [generally not available from stock but manufactured to order and subject to special conditions]

Other dimensions can be manufactured on request.

# SYMALIT® PVDF 1000

SYMALIT® PVDF 1000

## LINING LAMINATES GK [SYNTHETIC BACKING] – SHEETS

Thicknesses <sup>[1]</sup>	Standard size per piece				
	[1250 x 2000 mm]			[1500 x 3000 mm]	
[mm]	[kg/pce]		[€/pce]	[kg/pce]	[€/pce]
1.5	8.050	□	579.60	–	–
3	14.730	■	957.45	26.510	1'723.15
4	19.180	■	1'246.70	34.520	2'243.80
5	23.625	□	1'535.60	–	–
6	28.075	□	1'824.90	–	–

HP [High Purity] grades available upon request.

## LINING LAMINATES GK [SYNTHETIC BACKING] – ROLLS

Thicknesses <sup>[1]</sup>	Standard size per piece					
	[1250 x 10'000 mm]		[1250 x 15'000 mm]		[1500 x 10'000 mm]	
[mm]	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]
3	–	–	110.470	7'180.55	88.376	5'744.40
4	95.900	6'233.50	–	–	115.100	7'481.50

HP [High Purity] grades available upon request.

## LINING LAMINATES GGS [GLASS BACKING] – SHEETS

Thicknesses <sup>[1]</sup>	Standard size per piece				
	[1250 x 2000 mm]			[1500 x 3000 mm]	
[mm]	[kg/pce]		[€/pce]	[kg/pce]	[€/pce]
3	15.820	□	1'115.30	28.490	2'008.55
4	20.270	□	1'429.00	36.500	2'573.25
5	24.725	□	1'743.45	–	–
6	29.175	□	2'057.20	–	–

HP [High Purity] grades available upon request.

## LINING LAMINATES GGS [GLASS BACKING] – ROLLS

Thicknesses <sup>[1]</sup>	Standard size per piece					
	[1250 x 15'000 mm]		[1250 x 10'000 mm]		[1500 x 10'000 mm]	
[mm]	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]
3	118.700	8'368.35	–	–	94.900	6'690.45
4	–	–	101.300	7'141.65	121.600	8'572.80

HP [High Purity] grades available upon request.

<sup>[1]</sup>: Given thickness is the «fibre free thickness» according to ASME RTP-1

- : **standard** item [generally available from stock; large quantities may have to be manufactured to order]
- : **non-standard** item [generally not available from stock but manufactured to order and subject to special conditions]

Other dimensions can be manufactured on request.

# SYMALIT® PVDF 1000

SYMALIT® PVDF 1000 NATURAL

## WELDING ROD – RODS

Diameter	Standard length per piece					
	[80 x 1000 mm]		[45 x 1000 mm]		[50 x 1000 mm]	
[mm]	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]
3	1.000 ■	87.50	–	–	–	–
4	–	–	1.000 □	87.50	–	–
3 x 5	–	–	–	–	1.000 ■	87.50

SYMALIT® PVDF 1000 NATURAL/PVDF 1020 ORANGE

## WELDING ROD – ROLLS

Diameter	Standard length per piece					
	[80'000 mm]		[58'000 mm]		[45'000 mm]	
[mm]	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]
3	1.000 ■	87.50	–	–	–	–
3.5	–	–	1.000 □	87.50	–	–
4	–	–	–	–	1.000 ■	87.50

SYMALIT® PVDF 1000

## CAP STRIPS

Thicknesses	Standard size per piece			
	5 x 10'000 mm [GK]		10 x 10'000 mm [GGS]	
[mm]	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]
0.5	0.100 ■	50.00	0.120 □	80.000

■: **standard** item [generally available from stock; large quantities may have to be manufactured to order]

□: **non-standard** item [generally not available from stock but manufactured to order and subject to special conditions]

Other dimensions can be manufactured on request.

# SYMALIT® PVDF 1000

SYMALIT® PVDF 1000 NATURAL

## TUBES

O.D. x Inner diameter [mm]	Standard length per piece [1000 mm]		
	[kg/pce]		[€/pce]
25 x 10	0.760	■	47.90
25 x 13	0.650	□	42.25
30 x 15	0.980	■	63.70
36 x 23	1.200	■	86.40

HP [High Purity] grades available upon request.

## PIPES

O.D. x Wall thickness [mm]	Standard length per piece			
	[6000 mm]		[5000 mm]	
	[kg/pce]		[kg/pce]	[€/pce]
110 x 3.0	11.960	■	837.20	–
125 x 3.0	12.930	□	905.10	–
160 x 3.0	17.280	■	1'209.60	–
200 x 3.0	22.330	■	1'563.10	–
250 x 3.0	27.990	□	1'959.30	–
315 x 4.0	–	–	37.050	□ 2'593.50
355 x 4.0	–	–	42.440	□ 2'970.80
400 x 5.0	–	–	59.370	□ 4'155.90

HP [High Purity] grades available upon request.

- : **standard** item [generally available from stock; large quantities may have to be manufactured to order]
- : **non-standard** item [generally not available from stock but manufactured to order and subject to special conditions]

Other dimensions can be manufactured on request.

# SYMALIT® PVDF 1000

SYMALIT® PVDF 1000

## HV-LINER PIPES

O.D. x Wall thickness [mm]	Standard length per piece				
	[6000 mm]			[5000 mm]	
	[kg/pce]		[€/pce]	[kg/pce]	[€/pce]
25 x 1.9	1.740	■	156.60	–	–
32 x 2.4	2.610	■	234.90	–	–
40 x 2.4	3.390	□	305.10	–	–
50 x 3.0	5.160	□	464.40	–	–
63 x 3.0	6.660	■	599.40	–	–
75 x 3.0	7.740	□	696.60	–	–
90 x 3.0	9.540	■	858.60	–	–
110 x 3.0	12.090	■	1'088.10	–	–
125 x 3.0	13.080	□	1'177.20	–	–
160 x 3.0	17.460	■	1'571.40	–	–
200 x 3.0	22.560	■	2'030.40	–	–
250 x 3.0	28.290	□	2'546.10	–	–
315 x 4.0	–		–	37.665	□ 3'389.85
355 x 4.0	–		–	42.505	□ 3'825.45
400 x 5.0	–		–	59.450	□ 5'350.50

## HV-LINER BEND 90° [LONG SPIGOT/INJECTION MOULDED]

O.D. x Wall thickness [mm]	Weights and prices		
	[kg/pce]		[€/pce*]
25 x 1.9	0.040	□	45.00
32 x 2.4	0.050	□	88.50
63 x 3.0	0.200	□	186.40
90 x 4.3	0.520	□	242.60
110 x 5.3	0.930	□	420.50

\* : Minimum order quantity is 5 pcs per dimension

- : **standard** item [generally available from stock; large quantities may have to be manufactured to order]
- : **non-standard** item [generally not available from stock but manufactured to order and subject to special conditions]

Other dimensions can be manufactured on request.

# SYMALIT® PVDF ESd

POLYVINYLENE FLUORIDE [PVDF] ELECTRO-STATIC DISSIPATION [ESd]

## Main characteristics

- Service temperature range from -40 °C up to +150 °C [-40 °F up to +302 °F]
- Volume resistivity [IEC 93] < 10<sup>6</sup> Ohm.cm
- Surface resistivity [IEC 93] < 10<sup>6</sup> Ohm
- Very good chemical resistance [neutral and acidic media]
- High mechanical rigidity
- Resistance to UV-, β- and γ-rays
- Excellent resistance to abrasion
- Excellent ageing stability
- Black

## Typical applications

Lining of reactors, tanks and pipes for inflammable or explosive media and goods.





# SYMALIT® PVDF ESD

SYMALIT® PVDF ESD

## PIPES

O.D. x Wall thickness [mm]	Standard length per piece [6000 mm]		
	[kg/pce]		[€/pce]
32 x 2.4	2.610	□	456.75
50 x 3.0	5.160	□	903.00
63 x 3.0	6.660	□	1'165.50
75 x 3.0	7.590	□	1'328.25
90 x 3.0	9.540	□	1'669.50
110 x 3.0	12.090	□	2'115.75
160 x 3.0	17.460	□	3'055.50
200 x 3.0	22.560	□	3'948.00
250 x 3.0	27.990	□	4'898.25

## HV-LINER PIPES

O.D. x Wall thickness [mm]	Standard length per piece [6000 mm]		
	[kg/pce]		[€/pce]
32 x 2.4	2.610	□	557.75
50 x 3.0	5.160	□	992.90
63 x 3.0	6.660	□	1'280.40
75 x 3.0	7.740	□	1'582.75
90 x 3.0	9.540	□	1'835.30
110 x 3.0	12.090	□	2'323.95
160 x 3.0	17.460	□	3'019.20
200 x 3.0	22.560	□	3'691.85
250 x 3.0	28.290	□	5'128.20

## WELDING ROD – ROLLS

Diameter [mm]	Standard length per piece					
	[80'000 mm]		[58'000 mm]		[45'000 mm]	
	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]
3	1.000	□ 218.75	–	–	–	–
3.5	–	–	1.000	□ 218.75	–	–
4	–	–	–	–	1.000	□ 218.75

■: **standard** item [generally available from stock; large quantities may have to be manufactured to order]

□: **non-standard** item [generally not available from stock but manufactured to order and subject to special conditions]

Other dimensions can be manufactured on request.

# SYMALIT® PVDF – FLEX 1000

POLYVINYLIDENE FLUORIDE-HEXAFLUOROPROPYLENE COPOLYMER [PVDF-HFP]

## Main characteristics

- Good resistance against chemicals [neutral and acidic media]
- High purity
- Service temperature range from -30 °C to +120 °C [-30 °F to +242 °F]
- Excellent flex life
- Excellent ageing stability
- Resistance to UV-,  $\beta$ - and  $\gamma$ -rays
- Natural (white)

## Typical applications

Lining of reactors, tanks and containers for chemicals, cellulose and paper industries, lining of transport tanks.



# SYMALIT® PVDF – FLEX 1000

SYMALIT® PVDF – FLEX 1000

## SHEETS/PLATES CALANDERED

Thicknesses <sup>[1]</sup>	Standard size per piece					
	[1250 x 2000 mm]			[1500 x 3000 mm]		
[mm]	[kg/pce <sup>[2]</sup> ]	□	[€/pce]	[kg/pce <sup>[2]</sup> ]	□	[€/pce]
2.3	11.069	□	784.10	19.924	□	1'411.40
3	13.750	□	847.00	24.750	□	1'524.60
4	18.450	□	1'136.50	33.210	□	2'042.40

HP [High Purity] grades available upon request.

<sup>[1]</sup>: Tolerances according to ISO/DIS 15014 and DIN 16986

<sup>[2]</sup>: average production weights

## LINING LAMINATES GK [SYNTHETIC BACKING] – SHEETS

Thicknesses <sup>[1]</sup>	Standard size per piece					
	[1250 x 2000 mm]			[1500 x 3000 mm]		
[mm]	[kg/pce]	■	[€/pce]	[kg/pce]	■	[€/pce]
2.3	11.610	■	841.75	20.741	■	1'515.15
3	14.730	■	1'067.95	25.790	■	1'922.30
4	19.180	□	1'390.55	34.524	□	2'502.00
5	23.625	□	1'712.80	42.525	□	3'083.00
6	28.075	□	2'035.45	50.535	□	3'663.80

HP [High Purity] grades available upon request.

<sup>[1]</sup>: Given thickness is the «fibre free thickness» according to ASME RTP-1

## LINING LAMINATES GK [SYNTHETIC BACKING] – ROLLS

Thicknesses <sup>[1]</sup>	Standard size per piece					
	[1250 x 15'000 mm]			[1500 x 10'000 mm]		
[mm]	[kg/pce]	■	[€/pce]	[kg/pce]	■	[€/pce]
2.3	87.110	■	6'315.50	–	–	–
3	110.470	□	8'009.00	88.376	■	6'407.20

HP [High Purity] grades available upon request.

<sup>[1]</sup>: Given thickness is the «fibre free thickness» according to ASME RTP-1

SYMALIT® PVDF – FLEX 1000 NATURAL

## WELDING ROD – ROLLS

Diameter	Standard length per piece						
	[80'000 mm]		[58'000 mm]		[45'000 mm]		
[mm]	[kg/pce]	■	[€/pce]	[kg/pce]	□	[€/pce]	
3	1.000	■	96.25	–	–	–	
3.5	–	–	–	1.000	□	96.25	
4	–	–	–	–	–	–	
					1.000	■	96.25

■: standard item [generally available from stock; large quantities may have to be manufactured to order]

□: non-standard item [generally not available from stock but manufactured to order and subject to special conditions]

Other dimensions can be manufactured on request.

# SYMALIT® ECTFE 1000/2000

ETHYLENE-CHLOROTRIFLUOROETHYLENE [ECTFE]

## Main characteristics

- Service temperature range from -76 °C up to +160 °C [-105 °F up to +356 °F]
- Excellent chemical resistance against highly concentrated chemicals [up to pH 14]
- Low permeability to liquids, gases and vapours
- High elongation at break and flex life
- Good resistance to stress cracking, even with caustic solutions, chlorine and alkaline areas
- Excellent weather and radiation proof
- Low coefficient of thermal expansion
- Natural (white)

## Typical applications

Semiconductor process equipment, chemical storage tanks, reaction vessels and equipment, fluid handling.

## Important information

Also available as «Pentagon»-type with cost advantages for customers from countries of the European Union.  
For product details see page 23.



# SYMALIT® ECTFE 1000/2000

SYMALIT® ECTFE 2000 NATURAL

## ROUND RODS

Diameters <sup>[1]</sup>	Standard length per piece		
	[mm]	[1000 mm]	
	[kg/pce]		[€/pce]
20	0.560	□	83.30
25	0.870	□	129.50
30	1.240	□	184.60
36	1.813	□	269.90
40	2.200	□	327.60
45	2.785	□	417.20
50	3.424	□	512.40
60	4.930	□	733.83
80	8.750	□	1'302.50
90	11.075	□	1'648.50
100	13.690	□	2'037.75
120	19.800	□	2'947.25
140	26.900	□	4'004.00
165	37.000	□	5'507.50
180	43.800	□	6'519.70
200	55.500	□	8'261.20

<sup>[1]</sup>: Tolerances according to DIN 16980

SYMALIT® ECTFE 1000 NATURAL

## SHEETS/PLATES CALANDERED

Thicknesses <sup>[1]</sup>	Standard size per piece				
	[mm]	[1250 x 2000 mm]		[1500 x 3000 mm]	
	[kg/pce]		[€/pce]	[kg/pce]	[€/pce]
1.5	6.625	□	715.50	11.925	1'287.90
2.3	9.938	■	1'073.25	17.888	1'931.80
4	16.925	■	1'523.25	30.465	2'741.85
6	25.388	■	2'284.90	45.698	4'112.80
8	33.850	■	3'046.50	60.930	5'483.70
10	42.313	■	3'808.15	76.163	6'854.70
12	50.775	■	4'569.75	91.395	8'225.55
15	63.469	□	5'712.20	114.244	10'282.00
20	84.625	□	7'616.25	152.325	13'709.25

<sup>[1]</sup>: Tolerances according to DIN EN ISO 15014 and DIN EN ISO 16986

- : **standard** item [generally available from stock; large quantities may have to be manufactured to order]  
 □: **non-standard** item [generally not available from stock but manufactured to order and subject to special conditions]

Other dimensions can be manufactured on request.

# SYMALIT® ECTFE 1000/2000

SYMALIT® ECTFE 1000 NATURAL

## ROLLS CALANDERED

Thicknesses <sup>[1]</sup>	Standard size per piece				
	[1250 x 15'000 mm]			[1250 x 10'000 mm]	
[mm]	[kg/pce]		[€/pce]	[kg/pce]	[€/pce]
1.5	47.531	□	5'133.35	–	–
2.3	72.882	□	7'871.25	48.588	5'247.50

<sup>[1]</sup>: Tolerances according to DIN EN ISO 15014 and DIN EN ISO 16986

## SHEETS/PLATES CALANDERED FM4910 APPROVED

Thicknesses <sup>[1]</sup>	Standard size per piece		
	[1220 x 2440 mm]		
[mm]	[kg/pce]		[€/pce]
3.18	16.602	□	1'593.80
4.76	24.513	□	2'353.25
6.35	34.137	□	3'277.15
9.53	50.250	□	4'824.00
12.70	66.096	□	7'614.30
15.88	82.062	□	9'453.55
19.05	98.001	□	11'289.70
25.40	129.960	□	14'971.40

<sup>[1]</sup>: Tolerances according to ASTM D6713-01

- : **standard** item [generally available from stock; large quantities may have to be manufactured to order]
- : **non-standard** item [generally not available from stock but manufactured to order and subject to special conditions]

Other dimensions can be manufactured on request.

# SYMALIT® ECTFE 1000/2000

SYMALIT® ECTFE 1000

## LINING LAMINATES GK [SYNTHETIC BACKING] – SHEETS

Thicknesses <sup>[1]</sup>	Standard size per piece				
	[1250 x 2000 mm]			[1500 x 3000 mm]	
[mm]	[kg/pce]		[€/pce]	[kg/pce]	[€/pce]
1.5	7.680	□	844.80	–	–
2.3	11.060	■	1'144.70	19.910	2'060.70
3	14.020	□	1'451.00	–	–

## LINING LAMINATES GK [SYNTHETIC BACKING] – ROLLS

Thicknesses <sup>[1]</sup>	Standard size per piece					
	[1250 x 15'000 mm]		[1250 x 10'000 mm]		[1500 x 10'000 mm]	
[mm]	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]
1.5	57.600	□	6'336.00	–	–	–
2.3	–	–	55.300	■	5'723.55	66.360
3	–	–	70.100	□	7'255.35	–

## LINING LAMINATES GGS [GLASS BACKING] – SHEETS

Thicknesses <sup>[1]</sup>	Standard size per piece				
	[1250 x 2000 mm]			[1500 x 3000 mm]	
[mm]	[kg/pce]		[€/pce]	[kg/pce]	[€/pce]
1.5	8.750	□	1'050.00	–	–
2.3	12.130	□	1'364.65	21.834	2'456.35
3	15.090	□	1'697.65	–	–

## LINING LAMINATES GGS [GLASS BACKING] – ROLLS

Thicknesses <sup>[1]</sup>	Standard size per piece					
	[1250 x 15'000 mm]		[1250 x 10'000 mm]		[1500 x 10'000 mm]	
[mm]	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]
1.5	65.620	□	7'874.40	–	–	–
2.3	–	–	60.650	□	6'823.15	72.780
					□	8'187.75

<sup>[1]</sup>: Given thickness is the «fibre free thickness» according to ASME RTP-1

- : **standard** item [generally available from stock; large quantities may have to be manufactured to order]
- : **non-standard** item [generally not available from stock but manufactured to order and subject to special conditions]

Other dimensions can be manufactured on request.

# SYMALIT® ECTFE 1000/2000

SYMALIT® ECTFE 1000 NATURAL

## PIPES

O.D. x Wall thickness [mm]	Standard length per piece [5000 mm]		
	[kg/pce]		[€/pce]
20 x 1,9	1.025	□	102.50
25 x 1,9	1.350	□	135.00
32 x 2,4	2.075	■	207.50
40 x 2,4	2.675	□	267.50
50 x 3,0	4.075	□	407.50
63 x 3,0	5.235	■	523.50
75 x 3,0	5.975	□	597.50
90 x 3,0	7.390	■	739.00
110 x 3,0	9.405	■	940.50
160 x 3,0	14.050	□	1'405.00

SYMALIT® ECTFE 1000

## GK [SYNTHETIC BACKING] PIPES

O.D. x Wall thickness [mm]	Standard length per piece [5000 mm]		
	[kg/pce]		[€/pce]
20 x 1,9	1.525	□	451.40
25 x 1,9	1.950	□	505.80
32 x 2,4	2.850	■	593.10
40 x 2,4	3.650	□	707.90
50 x 3,0	5.250	□	822.35
63 x 3,0	6.730	■	1'194.65
75 x 3,0	7.725	□	1'371.27
90 x 3,0	9.500	■	1'686.40
110 x 3,0	11.980	■	2'151.00
160 x 3,0	17.780	□	2'950.70

■: **standard** item [generally available from stock; large quantities may have to be manufactured to order]

□: **non-standard** item [generally not available from stock but manufactured to order and subject to special conditions]

Other dimensions can be manufactured on request.

# SYMALIT® ECTFE 1000/2000

SYMALIT® ECTFE 1000 NATURAL

## WELDING ROD – ROLLS

Diameter	Standard length per piece					
	[83'000 mm]		[62'000 mm]		[47'000 mm]	
[mm]	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]
3	1.000 ■	142.50	-	-	-	-
3.5	-	-	1.000 ■	142.50	-	-
4	-	-	-	-	1.000 ■	142.50

SYMALIT® ECTFE 1000

## CAP STRIPS

Thicknesses	Standard size per piece			
	5 x 10'000 mm [GK]		10 x 10'000 mm [GGS]	
[mm]	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]
0.5	0.050 ■	80.00	0.090 ■	160.00

■: **standard** item [generally available from stock; large quantities may have to be manufactured to order]

□: **non-standard** item [generally not available from stock but manufactured to order and subject to special conditions]

Other dimensions can be manufactured on request.

# SYMALIT® ECTFE 1000/2000

SYMALIT® ECTFE 1000 PENTAGON

## LINING LAMINATES GK [SYNTHETIC BACKING] – SHEETS

Thicknesses <sup>[1]</sup>	Standard size per piece			
	[1250 x 2000 mm]		[1500 x 3000 mm]	
[mm]	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]
1.5	7.680 □	878.60	–	–
2.3	11.060 ■	1'190.50	19.910 ■	2'143.10
3	14.020 □	1'509.10	–	–

## LINING LAMINATES GK [SYNTHETIC BACKING] – ROLLS

Thicknesses <sup>[1]</sup>	Standard size per piece					
	[1250 x 15'000 mm]		[1250 x 10'000 mm]		[1500 x 10'000 mm]	
[mm]	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]
1.5	57.600 □	6'589.35	–	–	–	–
2.3	–	–	55.300 ■	5'952.40	66.360 ■	7'142.90
3	–	–	70.100 □	7'545.50	–	–

## LINING LAMINATES GGS [GLASS BACKING] – SHEETS

Thicknesses <sup>[1]</sup>	Standard size per piece			
	[1250 x 2000 mm]		[1500 x 3000 mm]	
[mm]	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]
1.5	8.750 □	1'092.00	–	–
2.3	12.130 □	1'419.25	21.834 □	2'554.60
3	15.090 □	1'765.55	–	–

## LINING LAMINATES GGS [GLASS BACKING] – ROLLS

Thicknesses <sup>[1]</sup>	Standard size per piece					
	[1250 x 15'000 mm]		[1250 x 10'000 mm]		[1500 x 10'000 mm]	
[mm]	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]
1.5	65.620 □	8'189.25	–	–	–	–
2.3	–	–	60.650 □	7'096.00	72.780 □	8'515.15

<sup>[1]</sup>: Given thickness is the «fibre free thickness» according to ASME RTP-1

- : **standard** item [generally available from stock; large quantities may have to be manufactured to order]
- : **non-standard** item [generally not available from stock but manufactured to order and subject to special conditions]

Other dimensions can be manufactured on request.

# SYMALIT® ETFE 1000

ETHYLENE-TETRAFLUOROETHYLENE [ETFE]

## Main characteristics

- Service temperature range from -190 °C up to +155 °C [-310 °F up to +311 °F]
- Excellent chemical resistance
- Mechanical and electrical properties correspond to those of ECTFE
- Low water absorption
- Excellent resistance to abrasion
- Clear [translucent]

## Typical applications

Components and linings in the chemical process industry.



# SYMALIT® ETFE 1000

SYMALIT® ETFE 1000

## LINING LAMINATES GGS [GLASS BACKING]

Thicknesses <sup>[1]</sup>	Standard size per piece [1250 x 10'000 mm]		
[mm]	[kg/pce]		[€/pce]
2.3	60.970	□	18'894.90

<sup>[1]</sup>: Given thickness is the «fibre free thickness» according to ASME RTP-1

SYMALIT® ETFE 1000 NATURAL

## WELDING RODS

Diameter	Standard length per piece [63'000 mm]		
[mm]	[kg/pce]		[€/pce]
3.5	1.000	□	420.00

■: **standard** item [generally available from stock; large quantities may have to be manufactured to order]

□: **non-standard** item [generally not available from stock but manufactured to order and subject to special conditions]

Other dimensions can be manufactured on request.

# SYMALIT® FEP 1000

TETRAFLUOROETHYLENE-HEXAFLUOROPROPYLENE [FEP]

## Main characteristics

- Service temperature range from -190 °C up to +205 °C [-310 °F up to +400 °F]
- Almost unlimited resistance to chemicals
- Very low permeation values
- Excellent stress cracking resistance
- Clear [translucent]

## Typical applications

Chlorine electrolysis, heavy duty corrosion protection, sodium-chlorate fabrication, pulp and paper industry, pipings for highly corrosive media.



# SYMALIT® FEP 1000

SYMALIT® FEP 1000 NATURAL

## FILMS

Thicknesses [mm]	Standard size per piece			
	[1250 x 15'000 mm]		[1250 x 10'000 mm]	
	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]
0.5	22.031 □	4'362.15	–	–
1.5	63.000 ■	10'395.00	–	–
2.3	–	–	63.38 ■	10'457.70

SYMALIT® FEP 1000

## LINING LAMINATES GGS [GLASS BACKING]

Thicknesses <sup>[1]</sup> [mm]	Standard size per piece			
	[1250 x 15'000 mm]		[1250 x 10'000 mm]	
	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]
0.8	56.330 □	28'125.00	–	–
1.5	80.920 ■	22'253.00	–	–
2.3	–	–	75.450 ■	18'862.50
3.8	–	–	110.113 □	27'528.25

[1]: Given thickness is the «fibre free thickness» according to ASME RTP-1

## PIPES

O.D. x Wall thickness [mm]	Standard length per piece [5000 mm]	
	[kg/pce]	[€/pce]
32 x 2.3	2.675 ■	508.25
50 x 2.3	4.250 □	807.50
63 x 2.3	5.600 ■	1'064.00
90 x 2.3	8.400 ■	1'596.00
110 x 2.3	9.800 ■	1'862.00
160 x 2.3	16.345 □	3'105.55
200 x 2.3	19.565 □	3'717.35

■: **standard** item [generally available from stock; large quantities may have to be manufactured to order]

□: **non-standard** item [generally not available from stock but manufactured to order and subject to special conditions]

Other dimensions can be manufactured on request.

# SYMALIT® FEP 1000

SYMALIT® FEP 1000

## GGG [GLASS BACKING] PIPES

O.D. x Wall thickness [mm]	Standard length per piece [5000 mm]		
	[kg/pce]		[€/pce]
32 x 2.3	3.055	■	1'236.50
50 x 2.3	4.905	□	1'598.15
63 x 2.3	6.230	■	1'902.75
90 x 2.3	9.000	■	2'621.70
110 x 2.3	11.045	■	2'920.25
160 x 2.3	16.145	□	5'252.75
200 x 2.3	20.225	□	6'459.25

## GGG [GLASS BACKING] PIPES BEND 90°

O.D. x Wall thickness [mm]	Weights and prices		
	[kg/pce]		[€/pce*]
32 x 2.3	0.183	□	172.20
50 x 2.3	0.343	□	243.60
63 x 2.3	0.498	□	359.10
90 x 2.3	0.720	□	600.60
110 x 2.3	0.994	□	726.60

\* : Minimum order quantity is 10 pcs per dimension

SYMALIT® FEP 1000 NATURAL

## WELDING RODS

Diameter [mm]	Standard length per piece [48'000 mm]		
	[kg/pce]		[€/pce]
3.5	1.000	■	400.00

■ : **standard** item [generally available from stock; large quantities may have to be manufactured to order]  
 □ : **non-standard** item [generally not available from stock but manufactured to order and subject to special conditions]

Other dimensions can be manufactured on request.

# SYMALIT® MFA 500

TETRAFLUOROETHYLENE-PERFLUOROVINYLETHER [MFA]

## Main characteristics

- Service temperature range from -190 °C up to +225 °C [-310 °F up to +437 °F]
- Almost unlimited resistance to chemicals
- Very low permeation values
- Excellent stress cracking resistance
- Clear [translucent]

## Typical applications

Heavy-duty corrosion protection for chemical process vessels and equipment, lining of transportation tanks for highly corrosive media.



# SYMALIT® MFA 500

SYMALIT® MFA 500 NATURAL

## FILMS

Thicknesses	Standard size per piece			
	[1250 x 15'000 mm]		[1250 x 10'000 mm]	
[mm]	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]
0.5	22.031 □	4'362.15	–	–
1.5	63.000 ■	10'395.00	–	–
2.3	–	–	63.38 ■	10'457.70

SYMALIT® MFA 500

## LINING LAMINATES GGS [GLASS BACKING]

Thicknesses <sup>[1]</sup>	Standard size per piece			
	[1250 x 15'000 mm]		[1250 x 10'000 mm]	
[mm]	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]
0.8	56.330 □	28'125.00	–	–
1.5	80.920 ■	22'253.00	–	–
2.3	–	–	75.450 ■	18'862.50
3.8	–	–	110.113 □	27'528.25

<sup>[1]</sup>: Given thickness is the «fibre free thickness» according to ASME RTP-1

SYMALIT® MFA 500 NATURAL

## WELDING RODS

Diameter	Standard length per piece	
	[48'000 mm]	
[mm]	[kg/pce]	[€/pce]
3.5	1.000 ■	400.00

■: **standard** item [generally available from stock; large quantities may have to be manufactured to order]

□: **non-standard** item [generally not available from stock but manufactured to order and subject to special conditions]

Other dimensions can be manufactured on request.

# SYMALIT® MFA 1000

TETRAFLUOROETHYLENE-PERFLUOROMETHYLVINYLETHER [MFA]

## Main characteristics

- Service temperature range from -190°C up to +250°C [-310°F up to +482°F]
- Almost unlimited resistance to chemicals
- Very low permeation values
- Excellent stress cracking resistance
- Very low leach-out values for high purity applications
- Clear [translucent]

## Typical applications

Semiconductor, pharmaceutical industry, biotechnology, heavy-duty corrosion protection, high purity applications.



# SYMALIT® MFA 1000

SYMALIT® MFA 1000 NATURAL

## FILMS

Thicknesses	Standard size per piece			
	[1250 x 15'000 mm]		[1250 x 10'000 mm]	
[mm]	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]
1.5	63.000 □	12'600.00	–	–
2.3	–	–	63.380 □	12'676.00

HP [High Purity] grades available upon request.

SYMALIT® MFA 1000

## LINING LAMINATES GGS [GLASS BACKING]

Thicknesses <sup>[1]</sup>	Standard size per piece			
	[1250 x 15'000 mm]		[1250 x 10'000 mm]	
[mm]	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]
0.8	56.330 □	31'875.00	–	–
1.5	80.920 □	25'489.80	–	–
2.3	–	–	75.450 □	21'503.25

HP [High Purity] grades available upon request.

[1]: Given thickness is the «fibre free thickness» according to ASME RTP-1

SYMALIT® MFA 1000 NATURAL

## WELDING RODS

Diameter	Standard length per piece	
	[48'000 mm]	
[mm]	[kg/pce]	[€/pce]
3.5	1.000 □	450.00

■: **standard** item [generally available from stock; large quantities may have to be manufactured to order]

□: **non-standard** item [generally not available from stock but manufactured to order and subject to special conditions]

Other dimensions can be manufactured on request.

# SYMALIT® PFA 1000

TETRAFLUOROETHYLENE-PERFLUOROALKYLVINYLETHER [PFA]

## Main characteristics

- Service temperature range from -190 °C up to +260 °C [-310 °F up to +500 °F]
- Almost unlimited resistance to chemicals
- Very low permeation values
- Excellent stress cracking resistance
- Very low leach-out values for high purity applications
- Clear [translucent]

## Typical applications

Semiconductor, pharmaceutical industry, biotechnology, heavy-duty corrosion protection and new application in corrosion prevention, power plants and heat exchangers, high purity applications, pipings for highly corrosive media.



# SYMALIT® PFA 1000

SYMALIT® PFA 1000 NATURAL

## FILMS

Thicknesses [mm]	Standard size per piece			
	[1250 x 20'000 mm]		[1250 x 10'000 mm]	
	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]
0.5	29.380 □	7'403.76	–	–
1.5	84.000 ■	17'640.00	–	–
2.3	–	–	63.380 ■	13'309.80

HP [High Purity] grades available upon request.

SYMALIT® PFA 1000 NATURAL

## SHEETS

Thicknesses [mm]	Standard size per piece			
	[1250 x 2000 mm]		[920 x 2000 mm]	
	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]
4	21.750 □	7'830.00	–	–
6	–	–	24.012 □	8'644.30
10	–	–	40.020 □	14'407.20
12	–	–	48.024 □	17'288.60

HP [High Purity] grades available upon request.

SYMALIT® PFA 1000

## LINING LAMINATES GGS [GLASS BACKING]

Thicknesses <sup>[1]</sup> [mm]	Standard size per piece			
	[1250 x 15'000 mm]		[1250 x 10'000 mm]	
	[kg/pce]	[€/pce]	[kg/pce]	[€/pce]
0.8	56.330 □	33'750.00	–	–
1.5	80.920 □	26'703.60	–	–
2.3	–	–	75.450 ■	22'635.00
3.8	–	–	117.450 □	31'455.00

HP [High Purity] grades available upon request.

<sup>[1]</sup>: Given thickness is the «fibre free thickness» according to ASME RTP-1

- : **standard** item [generally available from stock; large quantities may have to be manufactured to order]
- : **non-standard** item [generally not available from stock but manufactured to order and subject to special conditions]

Other dimensions can be manufactured on request.

# SYMALIT® PFA 1000

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## GGG [GLASS BACKING] PIPES

O.D. x Wall thickness [mm]	Standard length per piece [5000 mm]		
	[kg/pce]		[€/pce]
32 x 2.3	3.055	□	1'483.80
63 x 2.3	6.235	□	2'173.15
90 x 2.3	9.010	□	2'759.60
110 x 2.3	11.050	□	3'232.50

HP [High Purity] grades available upon request.

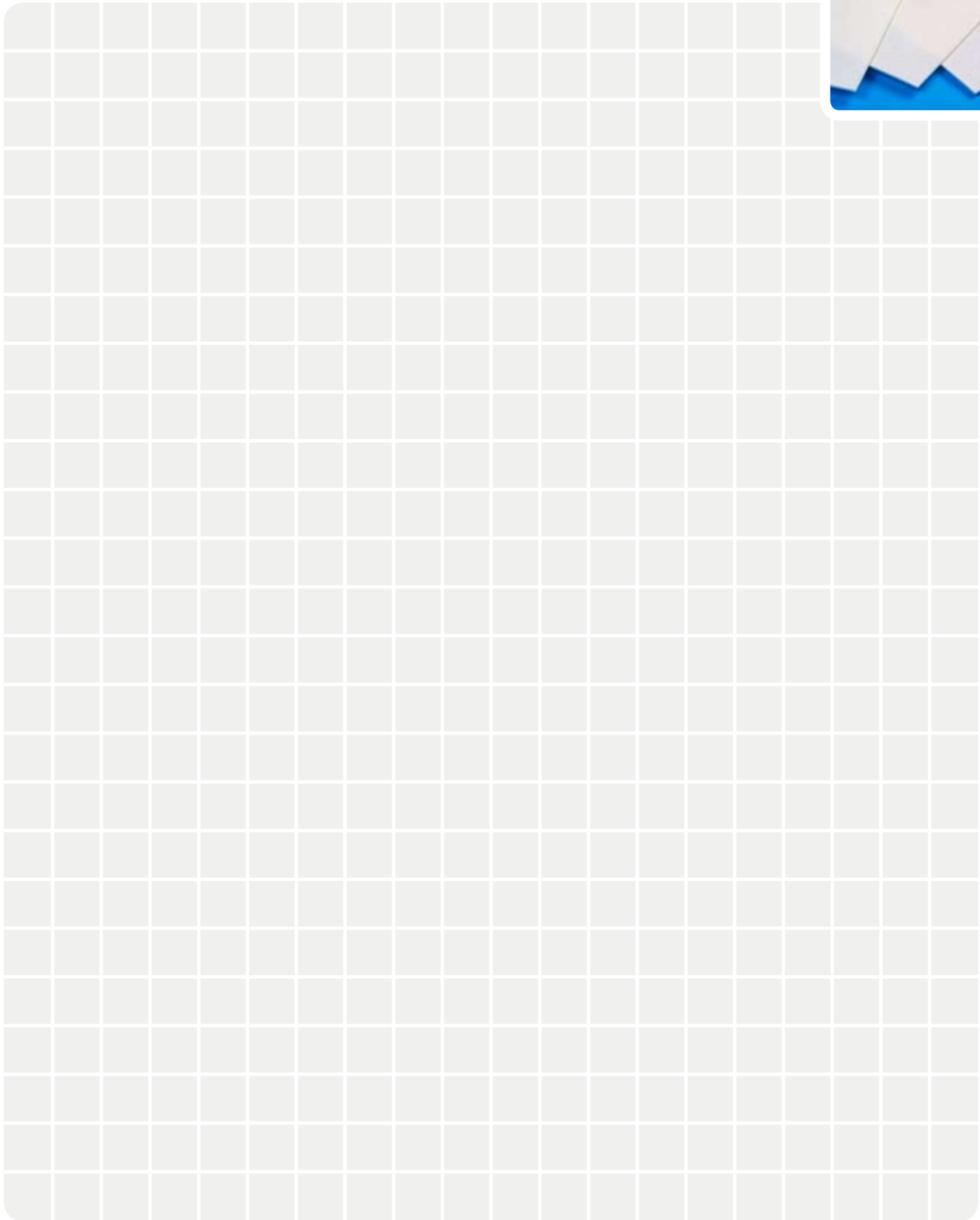
## WELDING RODS

Diameter [mm]	Standard length per piece [48'000 mm]		
	[kg/pce]		[€/pce]
3.5	1.000	■	475.00

■: **standard** item [generally available from stock; large quantities may have to be manufactured to order]

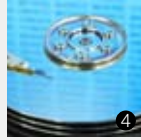
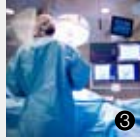
□: **non-standard** item [generally not available from stock but manufactured to order and subject to special conditions]

Other dimensions can be manufactured on request.



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