

Saatilene Hibond

Saatilene Hibond is a high modulus, low elongation monofilament polyester screen printing fabric, offering to the stencil makers and printers unique characteristics in terms of production time, and above all, stencil adhesion. In order to guarantee optimum stencil adhesion, all traditional fabrics require two types of surface preparation: mesh roughening on new or virgin fabrics, followed by a thorough degreasing.

Saatilene Hibond is a high modulus screen fabric that is factory-finished with a special surface treatment known as "Plasma treatment".

The gas plasma process

A "plasma" is a partially ionised gas containing ions, atoms and neutral species. Those high reactive particles react with the surface of the fabric creating its activation and a micro etching effect.

The surface activation is the replacement of weak bonding by high reactive carbonyl, carboxyl and hydroxyl groups, while the micro etching process breaks down the weak covalent bondings.

The modified surface becomes super active and uniformly etched after treatment, which is not the case for standard untreated polymer surfaces.

Plasma advantages

- Qualitative, reproducible and fully controllable process.
- Effective treatment: higher degree of activation, longer shelf life than alternative methods.
- No fabric damages or bulk property changes.
- Environmental and operator friendly technique: no chemical products, low energy consumption.

SAATILENE
SCREEN

Saatilene Hibond

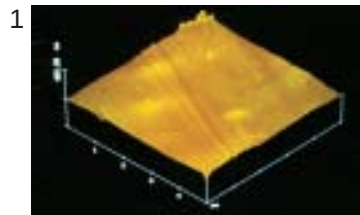
Benefits of Hibond fabrics

- Ready to use. The degreasing process can be eliminated.
- Even and consistent surface properties, enhancing for extreme stencil durability.
- Safe underexposure, without loss of stencil adhesion with dual cure photoemulsions and capillary films, in order to resolve the finest highlight dots and prevent the loss of details in deep shadow zones in the production of high-density halftones.
- Hibond helps to reduce the ghost imaging when printing transparent inks.

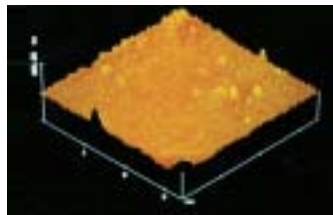
Hibond fabric is recommended for:

- halftones fine detail printing
- projection exposure system screens
- when using a virgin fabric for every stencil
- use with indirect or capillary films
- very long print runs with multicolour presses
- large size screens
- printing with abrasive inks or pastes
- printing on rugged substrates

Traditional polyester



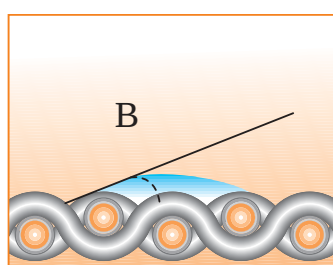
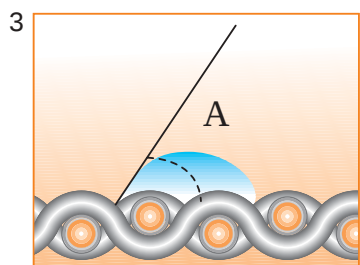
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1) Atomic Force Microphotos of thread surface.



2) Water droplets on fabrics.



3) Contact angles water/fabric.

A low contact angle (B) is indicative of greater surface wettability, essential for best stencil durability.

STENCIL PROCESSING TIME CHART

Action	Traditional fabric Time (min.)	Saatilene HIBOND Time (min.)
Wetting of fabric	0.5	0
Roughening	5.0	0
Rinsing	0.5	0
Drying	10	0
Wetting (film)	(0.5)	(0.5)
Screen coating	5	5
Drying	20	20
TOTAL TIME	41	25
TIME SAVING: 40%		

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TABLE OF FABRIC TECHNICAL SPECIFICATIONS

MESH COUNT		WEAVE	NOMINAL THREAD DIAMETER	MESH OPENING	FREE OPENING	FABRIC THICKNESS	THEORETICAL INK VOLUME	SPECIFIC CROSS-SECTION	MAXIMUM RECOMMENDED TENSION FROM-TO
cm	inch		μ	μ	%	μ	cm³/m²	mm²/cm	N/cm
43	110	PW	80	150	43	132	57	0.216	35-37
49	125	PW	70	130	40	116	46	0.188	30-34
49	125	PW	80	120	35	132	46	0.246	37-40
51	129	PW	70	120	38	118	45	0.196	30-35
51	129	PW	80	110	31	129	40	0.296	37-40
55	140	PW	64	120	41	105	43	0.176	26-31
55	140	PW	80	95	27	140	38	0.276	40-45
62	158	PW	64	90	32	106	34	0.199	30-34
68	173	PW	55	89	36	89	32	0.161	25-30
68	173	PW	70	65	20	120	24	0.261	38-42
71	180	PW	55	80	33	91	30	0.168	25-30
77	196	PW	48	78	36	80	29	0.139	24-26
77	196	PW	55	70	28	90	25	0.182	27-32
90	230	PW	40	68	38	62	24	0.113	20-24
90	230	PW	48	55	27	81	22	0.162	27-29
95	241	PW	40	65	37	65	24	0.119	22-24
100	255	PW	40	55	31	64	20	0.125	26-28
100	255	PW	48	40	16	81	13	0.181	30-34
110	280	PW	34	53	35	56	20	0.099	22-24
110	280	PW	40	47	26	69	18	0.138	25-30
120	305	PW	31	53	40	48	19	0.090	21-24
120	305	PW	34	45	29	54	16	0.108	24-26
120	305	TW	34	47	31	64	20	0.108	24-26
120	305	PW	40	38	20	67	13	0.150	27-32
120	305	TW	40	41	23	70	16	0.150	27-32
130	330	PW	34	39	26	55	14	0.118	24-27
130	330	TW	34	41	28	60	17	0.118	24-27
140	355	PW	27	43	36	42	15	0.080	16-18
140	355	PW	31	38	28	48	13	0.105	20-22
140	355	PW	34	29	16	56	9	0.127	23-26
140	355	TW	34	32	20	60	12	0.127	23-26
150	380	PW	27	35	27	44	12	0.085	17-20
150	380	PW	31	29	20	49	10	0.113	22-24
150	380	TW	31	34	27	55	15	0.113	22-24
150	380	PW	34	25	13	56	7	0.136	25-27
150	380	TW	34	28	17	61	10	0.136	25-27
165	420	PW	27	30	25	46	12	0.094	17-21
165	420	PW	31	25	17	49	8	0.125	24-26
165	420	TW	31	30	24	60	14	0.125	24-26
165	420	TW	34	25	16	66	10.5	0.149	24-28
180	460	PW	27	25	20	43	8	0.103	18-22
180	460	TW	31	23	17	56	9.5	0.136	23-27
200	508	TW	31	18	13	60	8	0.151	23-27

PW: Plain Weave (1:1) - TW: Twill Weave (1:2 - 2:2)
Other items available on request.

The above data are average values measured on piece-good in relaxed state, manufactured with yarns of a perfect nominal diameter (cfr. international standards), under normal hygrometric conditions (20°C=68°F, 65% relative humidity). They are subject to normal variations up to 7% if conditions vary from those stated above.

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Web Site:
www.saatiprint.com

World Headquarters:
SaatiPrint S.p.A.
Via Milano, 14
22070 Appiano Gentile (Como)
Italy
Tel. (+39) 031 9711
Fax (+39) 031 933392
e-mail: info.IT@saatiprint.com

Saati GmbH
Ennigerloher Str. 64
59302 Oelde - Westfalen
Germany
Tel. (+49) 02522 30150/151
Fax (+49) 02522 30152
e-mail: info.DE@saatiprint.com

Saati BV
Narcissenstraat 18
2071 Am Santpoort
The Netherlands
Tel. (+31) 23 5388040
Fax (+31) 23 5380857
e-mail: info.NL@saatiprint.com

Saati Do Brasil Ltda.
Rua Flavio Beltrame 235
CEP 13422
140 Bairro Unileste - Piracicaba
Brasil
Tel. (+55) 1934 241442
Fax (+55) 1934 242594
e-mail: info.BR@saatiprint.com

Saati France S.A.
46, Rue Lauriston
75016 Paris
France
Tel: (+33) 1 56265040
Fax: (+33) 1 44050015

Route Nationale, 22
80360 Sailly-Saillisel
France
Tel.: (+33) 3 22857700
Fax: (+33) 3 22857709

E-mail: info.FR@saatiprint.com

Saati Serigrafia Iberica S.A.
Pol. Ind. "El Mijares" C/Industria 13
12550 Almazora Castellon
Spain
Tel. (+34) 96 4550688
Fax (+34) 96 4551049
e-mail: info.ES@saatiprint.com

Saati Americas Corp.
P.O. Box 440, Route 100
10589 Somers - New York
USA
Tel. (+1) 914 2327781
Fax (+1) 914 2324004
e-mail: info.US@saatiprint.com

Shanghai Saati Fabrics Ltd.
Rm 47, Lombardy Building
Ning Qiao 999 - Jin Qiao Pudong
201206 Shanghai
China
Tel. (+86) 21 58999113
Fax (+86) 21 50317438
e-mail: info.CN@saatiprint.com

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