



Hi-Flow™ Plus

Membranes

Exceptionally consistent lateral flow and superior surface quality

- ▶ **Hi-Flow™ Plus Membranes offer consistent lateral flow within rolls and between lots**
- ▶ **Superior surface quality improves reagent addition and clarity of test results**
- ▶ **Choose between 6 standard flow times to fit your development needs**

Don't let membrane variability affect the reliability of your diagnostic test strips. Hi-Flow Plus membranes are manufactured to the tightest flow rate and thickness specifications of any lateral flow membrane, which means that you get consistent performance both within and between lots.

* For details, request our guide to developing rapid lateral flow test strips (Millipore publication TB500EN00).

** Stucco is a term used to describe a membrane surface that is rough, like sandpaper.

*** Only HF180 and HF135 are available unbacked.

Consistent Flow and Thickness

Hi-Flow Plus membrane's consistent capillary flow time keeps the effective analyte concentration in your assay consistent, too. As a result, you can develop assays with greater precision than ever before.*

Choice of 6 Flow Times

For example, you can use fast-flowing Hi-Flow Plus 75 for tests where speed is critical, sample is plentiful, and sensitivity is not a concern. On the other extreme, use slow-flowing Hi-Flow Plus 240 for tests where speed is less important, sample is limited, or high sensitivity is needed. Or use our other Hi-Flow Plus membranes for assays that combine speed and sensitivity.

Superior Surface Quality

Hi-Flow Plus membranes have no stucco** and virtually no unincorporated nitrocellulose powder. This excellent surface quality improves reagent addition and the clarity of the test results.

Available With or Without Backing

Hi-Flow Plus membranes are available with or without*** a clear polyester film backing. Our unique direct casting method lets us apply the backing without using adhesives, which can migrate into the membrane and interfere with assay performance.

Tighter Tolerances Shrink Your Incoming QC

Our tighter release criteria ensure that your membrane will perform the same from shipment to shipment, which means minimal incoming QC testing and less pre-screening.

We take two 5 meter long sections at the head and tail end of each 100 meter master roll, examine them for surface quality, and then test them for capillary flow time and thickness. To ensure the most accurate data, we only test from the sections of the master roll that are used by customers—never from the trimmed (scrapped) edges, which can have a different thickness and capillary flow time than the rest of the roll.

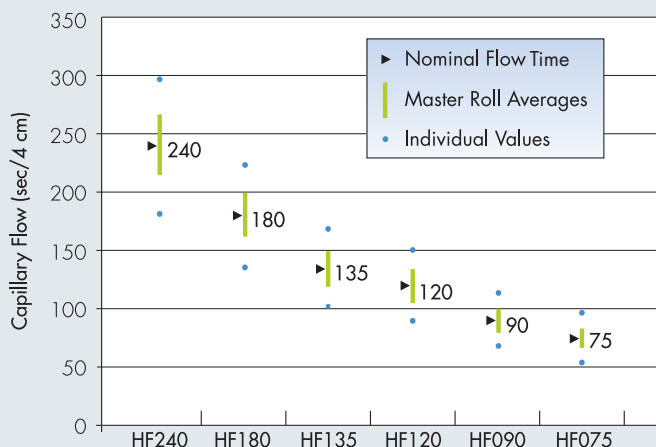
For the master roll to be released for shipment, the test values from the two 5 meter long sections taken at the head and tail end of the roll cannot exceed the individual values shown below. In addition, the average test values cannot exceed the master roll average values shown below.

Standard Lot Release Criteria (Percent Deviation from Nominal Values)

	Individual Test Values	Master Roll Averages
Capillary flow time	± 25%	±10%
Thickness	± 11%	± 6%



Figure 1. Flow Time Ranges



Detailed Certificate of Analysis

Every lot of Hi-Flow Plus membrane includes a certificate ensuring that:

- The lot complies with all test specifications
- There have been no changes in critical raw materials (membrane polymers)
- The membrane was produced in compliance with validated and documented manufacturing processes and material specifications

On the quality certificate you'll find catalogue number, lot number, code number, dimensions, visual quality, membrane thickness (individual values and master roll averages), composite thickness for backed membranes, and capillary flow time (individual values and master roll averages).

ISO, GMP Manufacturing

Our manufacturing sites are ISO 9001:2000 certified and GMP compliant. Plant audits are available on request.

Ordering Information

1. Choose a membrane

Flow times range from 75 to 240 seconds/4 centimeters. Backings are either 2 or 4 mil.

2. Choose a quantity

Order the number of master rolls that you need. Rolls can be 100 meters long.

3. Choose a width

We offer 18 standard widths cut to a standard tolerance of ± 0.5 mm. You can also order uncut master rolls.

A minimum standing order is required for custom backings, roll lengths, widths, flow times, thicknesses, tolerances, labels, quality tests or certificates. Custom orders may also require a longer lead-time.

Hi-Flow Plus Membrane

Type	HF075	HF090	HF120	HF135	HF180	HF240
Material	Nitrocellulose	Nitrocellulose	Nitrocellulose	Nitrocellulose	Nitrocellulose	Nitrocellulose
Capillary Flow Time (sec/4 cm)						
Master Roll Averages	75 \pm 8	90 \pm 10	120 \pm 13	135 \pm 15	180 \pm 20	240 \pm 26
Individual Values	75 \pm 19	90 \pm 23	120 \pm 30	135 \pm 34	180 \pm 45	240 \pm 60
Tensile Strength (lbs/in ²)						
Backed	>10	>10	>10	>10	>10	>10
Unbacked	—	—	—	>1	>1	—
Protein binding (μ g/cm ²)						
Insulin	> 30	> 30	> 30	> 30	> 50	> 55
BSA	> 45	> 45	> 45	> 45	> 65	> 65
Goat IgG	> 95	> 95	> 95	> 95	>120	>120

Matster Rolls (Uncut) 30.5 cm x 100 m. Can be slit to order.

Type	HF075	HF090	HF120	HF135	HF180	HF240
Material	Nitrocellulose	Nitrocellulose	Nitrocellulose	Nitrocellulose	Nitrocellulose	Nitrocellulose
Thickness*						
2 mil clear polyester backing (185 μ m \pm 19 μ m)						
100 meter	HF07502S00	HF09002S00	HF12002S00	HF13502S00	HF18002S00	HF24002S00
4 mil clear polyester backing (235 μ m \pm 19 μ m)						
100 meter	HF07504S00	HF09004S00	HF12004S00	HF13504S00	HF18004S00	HF24004S00
Unbacked (135 μ m \pm 15 μ m)						
100 meter	—	—	—	—	HF180UBS00	—

* Total thickness including membrane plus backing. Membrane alone is 135 μ m \pm 15 μ m.

Type	HF075	HF090	HF120	HF135	HF180	HF240
Pre-Slit Rolls 25 mm x 100 m						
2 mil clear polyester backing (185 μ m \pm 19 μ m)	SHF0750225	SHF0900225	SHF1200225	SHF1350225	SHF1800225	SHF2400225
4 mil clear polyester backing (235 μ m \pm 19 μ m)	SHF0750425	SHF0900425	SHF1200425	SHF1350425	SHF1800425	SHF2400425
Unbacked (135 μ m \pm 15 μ m)	—	—	—	SHF135UB25	SHF180UB25	—
Sample Sheets 20 cm x 20 cm (5/pk)						
2 mil clear polyester	HF07502XSS	HF09002XSS	HF12002XSS	HF13502XSS	HF18002XSS	HF24002XSS
4 mil clear polyester backing (235 μ m \pm 19 μ m)	HF07504XSS	HF09004XSS	HF12004XSS	HF13504XSS	HF18004XSS	HF24004XSS
Unbacked (135 μ m \pm 15 μ m)	—	—	—	HF135UBXSS	HF180UBXSS	—

See reverse side for slit widths.

Hi-Flow Plus Membrane

Standard Slit Widths

Slit width* (cm)	Slit rolls/ master	Linear feet/ 100 meter	Linear feet/ 50 meter	Slit width (cm)	Slit rolls/ master	Linear feet/ 100 meter	Linear feet/ 50 meter
1.60	18	5904	2952	3.175	9	2952	1476
1.70	17	5576	2788	3.20	9	2952	1476
1.80	16	5248	2624	3.50	8	2624	1312
2.00	14	4592	2296	3.81 (1.5 in.)	7	2296	1148
2.20	13	4264	2132	4.00	7	2296	1148
2.25	13	4264	2132	4.5	6	1968	984
2.50	11	3608	1804	4.80	6	1968	984
2.54 (1 in.)	11	3608	1804	5.00	5	1640	820
2.80	10	3280	1640	8.00	3	984	492
3.00	9	2952	1476	13.20	2	656	328

*Other slit widths and sheet sizes may be available.

Millipore provides innovative tools, services and application expertise that improve the scientist's productivity in the pharmaceutical, academic, life science, applied science, clinical and government research sectors. Our product range spans water purification, protein research, analytical sample preparation, cell-based assays and high throughput screening. Please visit www.millipore.com/bioscience for more details.

To Place an Order or Receive Technical Assistance

For additional information call your nearest Millipore office:

In the U.S. and Canada, call toll-free

1-800-MILLIPORE (1-800-645-5476)

In the U.S., Canada and Puerto Rico, fax

orders to **1-800-MILLIFX (1-800-645-5439)**

Outside of North America, contact your local office. To find the office nearest you:

www.millipore.com/offices

Internet: www.millipore.com

Tech Service: www.millipore.com/techservice

MILLIPORE

Millipore and Hi-Flow are trademarks of Millipore Corporation or an affiliated company.

Lit. No. PF10019EN00 Printed in U.S.A. Rev. - 10/06 06-376

© 2006 Millipore Corporation, Billerica, MA 01821 U.S.A. All rights reserved.

Millipore Worldwide

AFRICA	+33 1 30 12 70 00	JAPAN	(03) 5442-9714
AUSTRALIA	(02) 9888 8999	KOREA	(822) 3011-9600
AUSTRIA	0820 874 464	LUXEMBOURG	070 225 645
BALTIC COUNTRIES	+358 2 030 5645	MALAYSIA	03-7957-1322
BELGIUM	070 225 645	MEXICO	(55) 5576 9688
BRAZIL	(011) 5548-7011	MIDDLE EAST & GULF	+33 1 30 12 70 00
C.I.S.	+33 1 30 12 70 00	NORWAY	810 62 645
CANADA	(800) 645-5476	POLAND	22-669 12 25
CHINA	(8610) 8519 1250	PORTUGAL	901 516 645
CZECH REPUBLIC	2-2051 3841	PUERTO RICO	(787) 273-8495
DENMARK	7010 5645	SINGAPORE	6842 1822
EASTERN EUROPE	+33 1 30 12 70 00	SPAIN	901 516 645
FINLAND	0203 05 645	SWEDEN	0771 200 645
FRANCE	0825 045 645	SWITZERLAND	0848 645 645
GERMANY	01805 045 645	TAIWAN	886-2-2792-9333
HUNGARY	01-381-0433	THE NETHERLANDS	0900 7 645645
INDIA	(91) 80 283 946 57	U.K.	0870 900 46 45
IRELAND	1 890 924 645	U.S.A.	(800) 645-5476
ITALY	848 8 45 645	OTHER COUNTRIES	+1 (781) 533-8622