

Tech Tip 25

Membrane Lamination Speeds

Note: The speed control of each laminator must be set independently. Proper speeds can be set with the use of a hand held tachometer or by timing a set distance with a stopwatch.

Membrane 100

Membrane 100 is a consumable for use with MPS digital flexo plates and MPS LUX laminators. Membrane 100 is used to impart Flat Top image elements with a smooth surface to MPS flexo plates. The maximum lamination speed is 3.3 feet per minute (1 meter/minute).

Sled/Plate Size, inches	Estimated lamination time, seconds
50 x 82	124
42 x 62	94
35.5 x 49.25 (90x120cm plate)	74
30 x 27	41

Membrane 200 (Original, XL2)

Membrane 200 is used to impart a random recessed texture to the surface of a MPS flexo plates. It can be used in place of Membrane 100, subject to certain performance characteristics. The Maximum lamination speed is 0.90 feet per minute (0.27 meter/min). This slower lamination speed is necessary to achieve intimate contact of Membrane 200 with the plate surface. In roll form Membrane 200 has a slightly milky, matte finish appearance. When properly laminated to a plate it looks clear, similar to that of Membrane 100.



Sled/Plate Size, inches	Estimated lamination time, seconds
50 x 82	478
42 x 62	345
35.5 x 49.25 (90x120cm plate)	273
30 x 27	150

The New Membrane 200 (XL3)

The XL3 version of Membrane 200 was developed to allow increased lamination speeds, but is otherwise functionally identical to the previous version. Membrane packaging will include the designation "XL3" in the SKU number if it is of this version. The XL3 material began going into the field in September 2012 and a full transition to this material is expected to be complete by January 2013. The maximum lamination speed of Membrane 200-XL3 is 1.75 feet per minute (0.53 meter/min). This roll is also of a milky matte finish appearance. When properly laminated to a plate it will look clear in nature, similar to that of Membrane 100.

Sled/Plate Size, inches	Estimated lamination time, seconds
50 x 82	235
42 x 62	177
35.5 x 49.25 (90x120cm plate)	140
30 x 27	77

Figure 1 below shows the appearance of proper adherence (gloss black of the mask and polymer color of the plate) of Membrane 200. Figure 2 shows the appearance of poor adherence (its raw milky white appearance).



Figure 1



Figure 2



Poor lamination is usually caused by one or more of the following processing conditions:

1. Incorrect speed of lamination, usually by going too fast. Correct by timing a full length plate to attain the proper speed stated above.
2. Inadequate Impression of lamination roller. If using new “LUX” laminator, reset the zero point and plate thickness setting. If using a “62 Pro S” reset the gap setting or increase impression by turning the impression wheel clockwise 1/8 to 1/4 turn.
3. Inadequate lamination roll tension. Correct by increased tension.
4. Low lamination roller temperature. Correct by confirming the correct temperature of 230° F. (110° C).
5. Low spots in the sled. Minor variations in thickness can be compensated for by increased impression.

Detailed procedures for setting speed, gap, and impression can be found in the MacDermid LUX Operation Manual provided when the LUX system was installed.

As long as the mask layer has not been damaged, i.e. wrinkled, folded or scratched, you may relaminate the same plate after determining and correcting the lamination errors. It is not recommended to relaminate a plate more than once.

If you have any questions, please contact MacDermid’s Technical Service department at 1.800.348.7201.

