

These specifications are intended to define the operating capabilities of the laboratory pilot line.

| | |
|---------------------------------|--|
| Dryer | 15' long, 3 zone Flotation |
| Maximum Web Width | 24" |
| Maximum Substrate Roll Diameter | 48" unwind, 40" rewind, 27" laminator |
| Core Size | 3" or 6" ID (three 3" shafts and two 6" shafts) |
| Rated Mechanical Speed | 1 FPM to 1000 FPM |
| Optional Speed Range | 5 FPM to 2000 FPM (limited coating methods, requires setup time for gear changes) |
| Tension Range | 5 lb. total to 100 lb. total |
| Solvent Capabilities | Electrical equipment in the lab rated for Group D and limited Group C atmosphere. Solvents listed under Groups A or B of Table 500-3 of the National Electrical Code (1996) cannot be run. Group C solvents subject to review. |

Coating Station:

- Direct gravure
- 3 Roll offset gravure (vertical)
- Reverse gravure
- Meyer rod

Both gravure and impression rolls are independently driven and can be run at variable speeds in either direction. Either roll can be controlled by load cells to maintain a desired tension.

Any gravure method can be run either with pan feed or a fountainless feed system.

Miscellaneous Coating Methods:

- Metering knife over roll
- Dip & squeeze / saturation

Laminating:

- Capabilities of both wet and dry end laminating
- Dry end laminator rolls can be heated to 200°F
- Laminating nip: 26" face
- 80 Durometer shore "A" Neoprene cover
- Nip pressure to 250 PLI

Substrate Ranges:

- Extensible films
- Thin papers
- Heavy papers
- Metal foils
- Metal coil

Enercon Corona Treater:

- 7.5 Kw bare roll type
- Not rated for solvent coatings

Dryer System:

- (3) 5' zones
- 15' total effective drying length
- Independent velocity and temperature control for top and bottom nozzles
- 550°F maximum air temperature
- Interchangeable nozzles
- Full instrumentation
- PC-based data logging capability
- Infra-red web temperature sensors

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Laboratory Pilot Line Specifications

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(E) Meyer Rods Available

| <u>Rod Number</u> | <u>Approx. Wet Film (mils)</u> | <u>Wire Size Inches</u> |
|-------------------|--------------------------------|-------------------------|
| 3 | .27 | .003 |
| 4 | .36 | .004 |
| 5 | .45 | .005 |
| 7 | .63 | .007 |
| 8 | .72 | .008 |
| 10 | .90 | .010 |
| 12 | 1.08 | .012 |
| 16 | 1.44 | .016 |
| 20 | 1.80 | .020 |
| 24 | 2.16 | .024 |
| 28 | 2.52 | .028 |
| 32 | 2.88 | .032 |
| 36 | 3.24 | .036 |
| 40 | 3.60 | .040 |
| 44 | 3.96 | .044 |
| 48 | 4.32 | .048 |
| 52 | 4.65 | .052 |
| 56 | 5.00 | .056 |
| 60 | 5.90 | .060 |
| 66 | 7.08 | .066 |
| 76 | 8.15 | .076 |

(A) Gravure Rolls Currently Available (Selection May Vary)

| <u>Roll No.</u> | <u>26" Face Width Pattern</u> | <u>Cell Volume Microns³/in²</u> |
|----------------------------|-------------------------------|---|
| <u>Quadrangular</u> | | |
| 1 | 75 Ref. #47 | 35.6 x 10 ⁹ |
| 3 | 110 Ref. #67 | 26.9 x 10 ⁹ |
| 6 | 100 Ref. #12 | 23.8 x 10 ⁹ |
| 14 | 150 Ref. #100 | 16.2 x 10 ⁹ |
| 11 | 180 Ref. #50 | 9.2 x 10 ⁹ |
| 16 | 200 Ref. #109 | 4.4 x 10 ⁹ |
| <u>Trihelical</u> | | |
| 5 | 40 Ref. #18 | 71.0 x 10 ⁹ |
| 2 | 85 Ref. #39 | 34.9 x 10 ⁹ |
| 7 | 100 Ref. #16 | 25.2 x 10 ⁹ |
| 9 | 150 Ref. #86 | 9.6 x 10 ⁹ |
| 13 | 200 Ref. #6 | 6.0 x 10 ⁹ |
| 10 | 120 Ref. #23 | 15.8 x 10 ⁹ |
| <u>QCH</u> | | |
| 15 | 60 Ref. #6 | 35.5 x 10 ⁹ |
| 4 | 80 Ref. #22 | 24.7 x 10 ⁹ |
| 12 | 165 Ref. #25 | 11.4 x 10 ⁹ |

(B) Elastomer Covered Rolls Currently Available (Selection May Vary)

All rolls have 24" face width. Customer will be charged for recovering any rolls that need to be cut narrower.

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|-------------------------------------|--------------------------|
| 1. 45 Durometer Neoprene | 5. 55 Durometer Thiokol |
| 2. 45 Durometer Urethane | 6. 55 Durometer Neoprene |
| 3. 35 Durometer Neoprene | 7. 68 Durometer Neoprene |
| 4. 40 Durometer "Resistex" (Buna-N) | 8. 40 Durometer EPDM |

