PVC Modules (WBS 2.5)

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Core Group

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+ ~180 undergraduates at factory

Module Factory Stable 2 to 1 Production

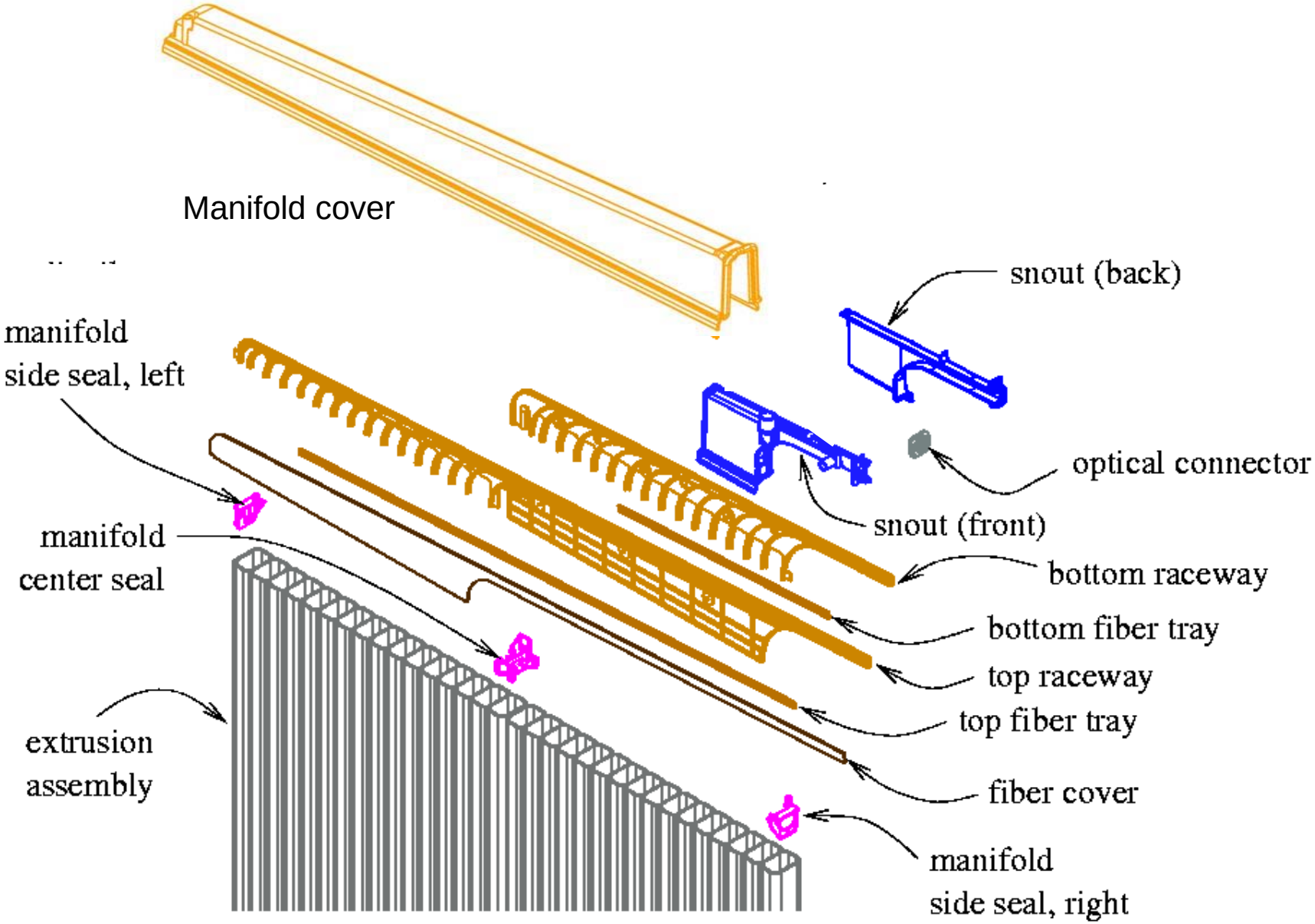
Peak 2 to 1 production rate 38/day (average needed 144/week)

3129 complete 2 to 1 (8.1 blocks = 28% of far detector)

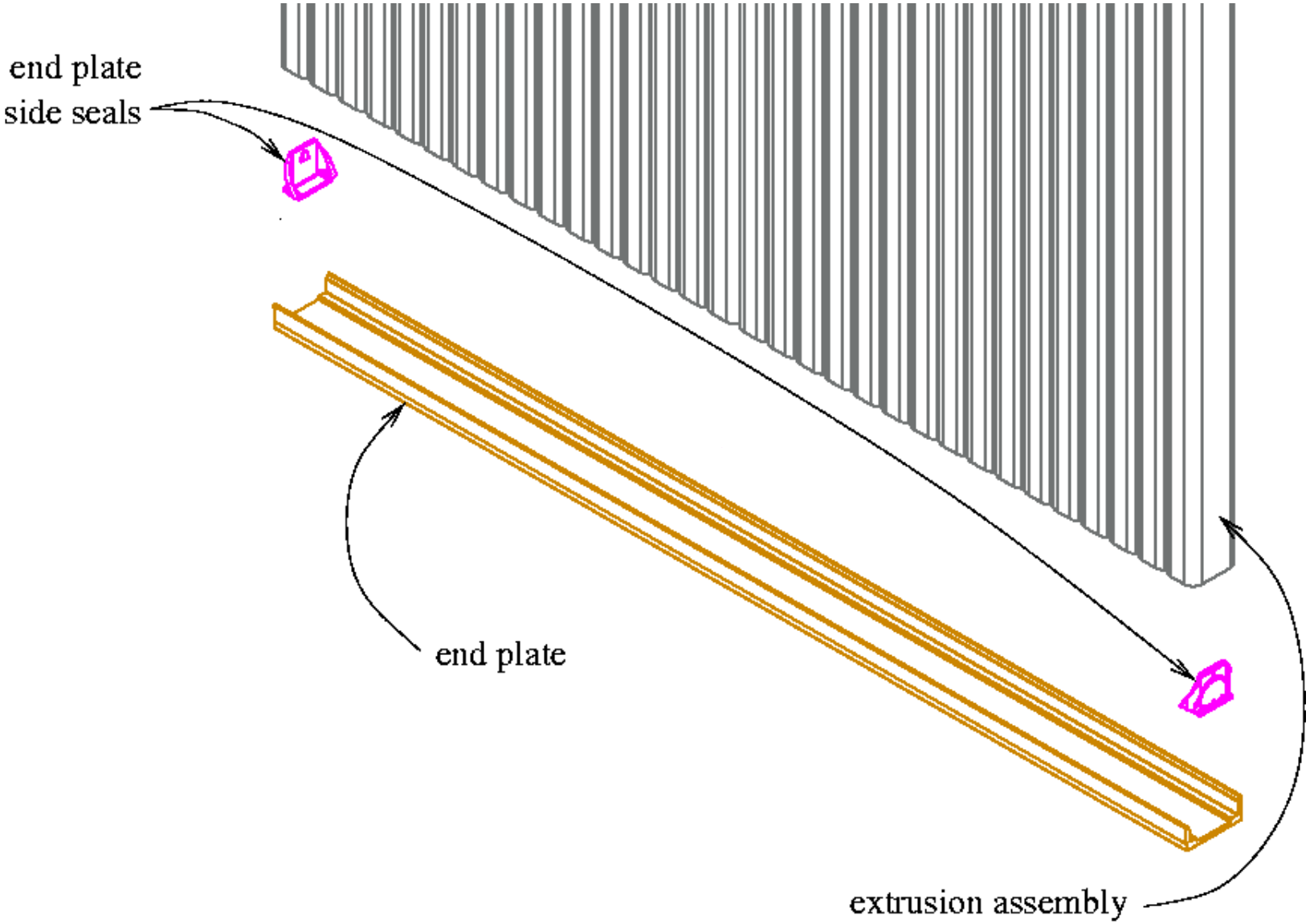
Failure rates overall
Flatness – 0.7%
End Cut – 0.7%

Failure rates to March 28
Flatness – 0% (519 done)
End Cut – 0% (517 done)

Fiber Manifold Assembly



End Plate Assembly

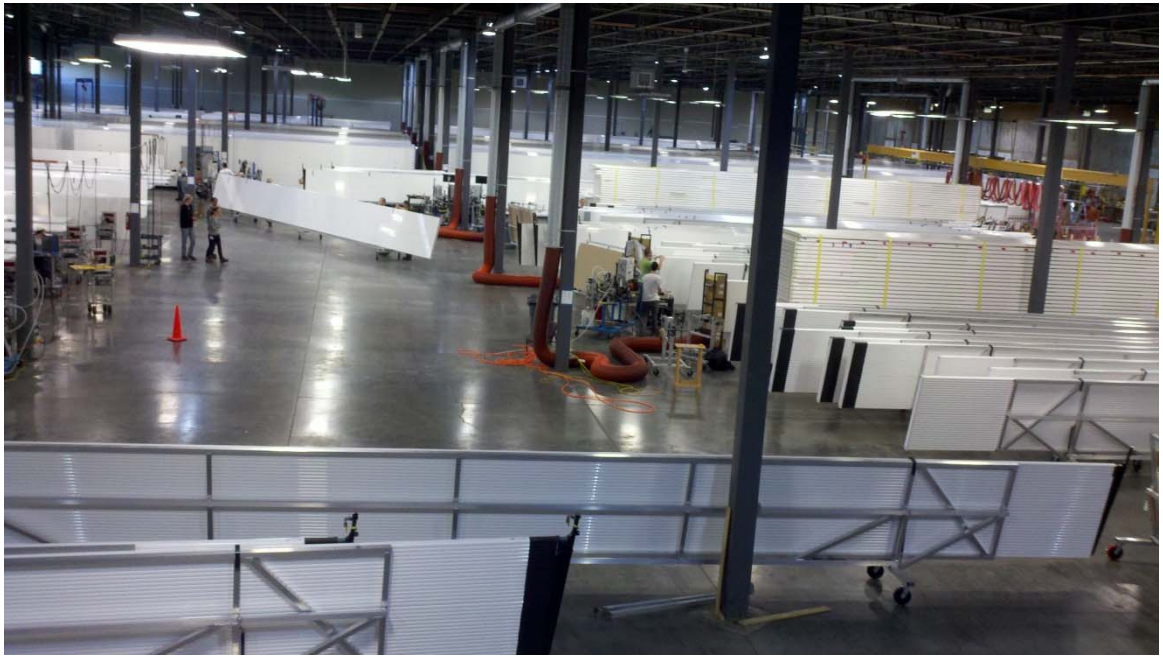


Parts Flowing In

Plastic Part	Parts on hand (module units)
Manifold Cover	388
End Plate	332
Top Raceway	167
Bottom Raceway	536
Top Fiber Tray	1346
Generic Fiber Tray	1588
Bottom Fiber Tray	2952
Raceway Cover	3422
Raceway Support	3919
Snout Front	3300
Snout Back	3300
Manifold Side Seal	3919
End Plate Side Seal	3920
Optical Connector	12544
Fiber Ring	12891
External Center Seal	12500

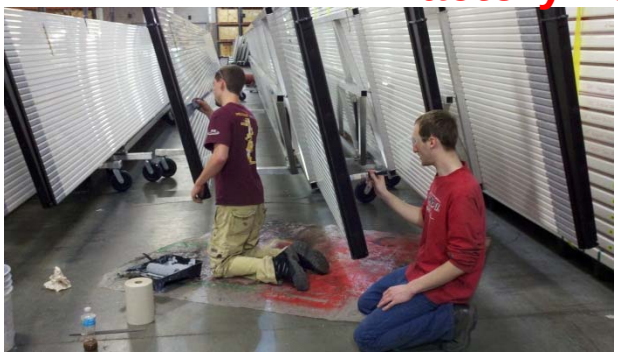
completed

Modules in Production



Factory floor

Good module stack



Painting modules

Open module fiber test

Fly cutting fibers in optical connector

QA Audit by H. Brown, T. J. Sarlina March 20 - 22

Snapshot of Production Ramp Up

15 completed good modules + 9 failures all fiber (37% fiber failure)

3 good modules waiting final inspection + 9 fiber failures, 5 hermetic seal failures (probably can be fixed) (53% fiber failure)

26 good modules at painting + 13 fiber failures, 2 hermetic seal failures (probably can be fixed) (33% fiber failure)

11 at outer seal (good inner seal, fiber) + 6 fiber failures (35% fiber failure)

14 at inner seal leak testing (good fibers) + 6 fiber failures (30% fiber failure)

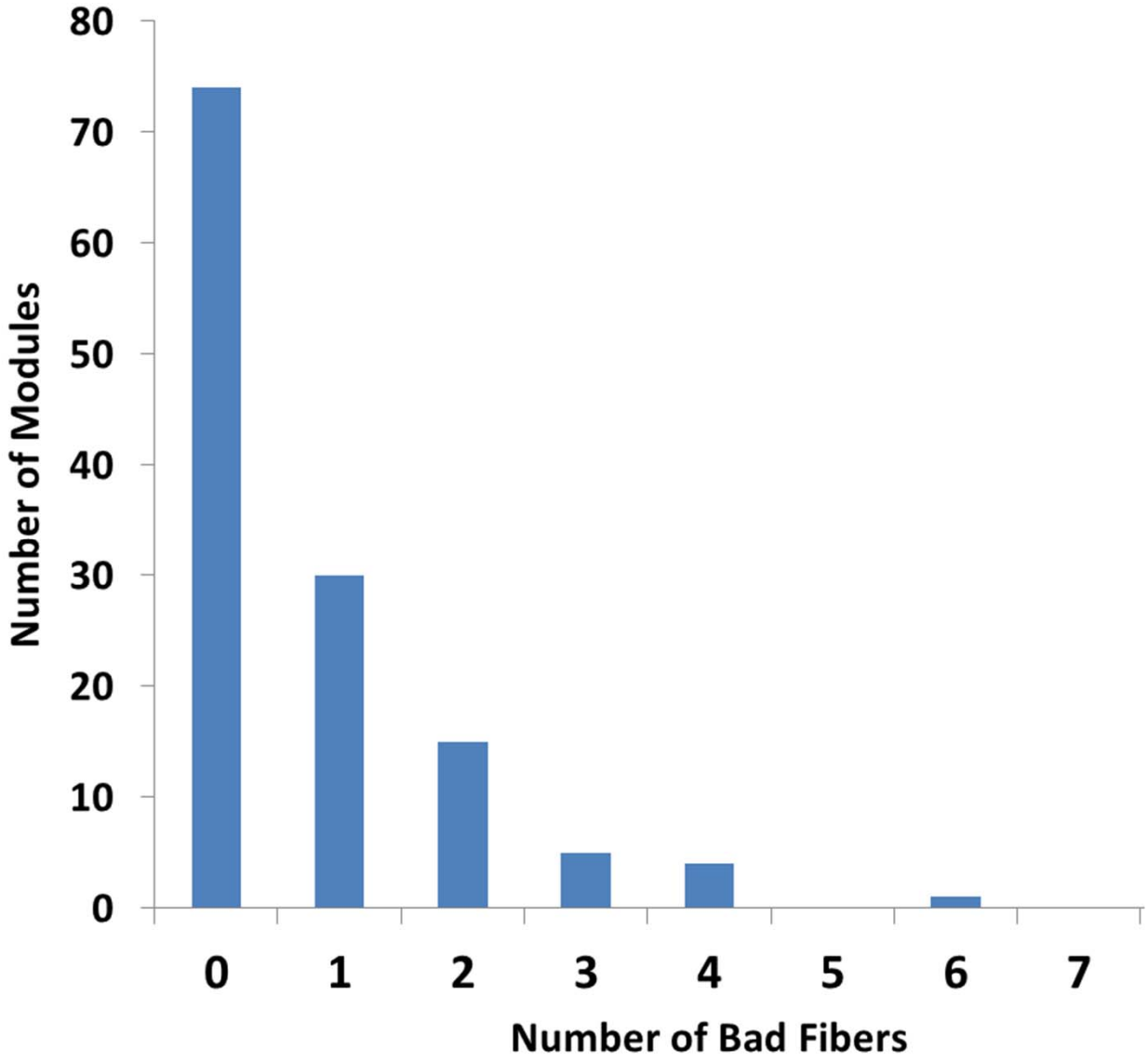
12 at inner seal + 7 fiber failures (37% fiber failure)

24 at fly cutting, found bug in open module fiber testing software

7 at stringing

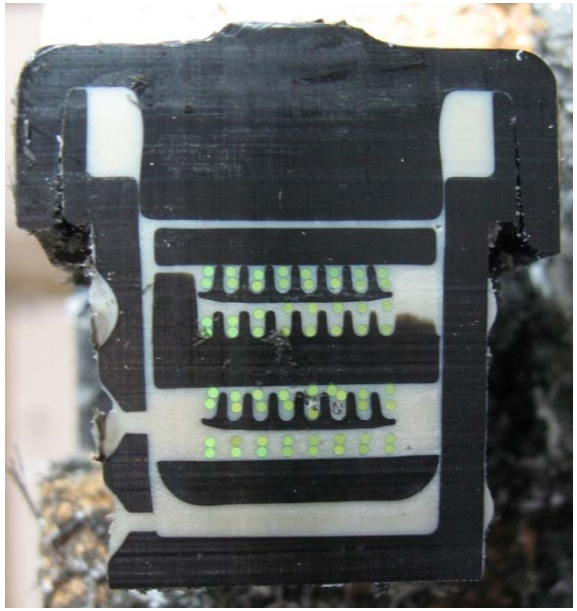
25 at stringing prep

Fiber Damage

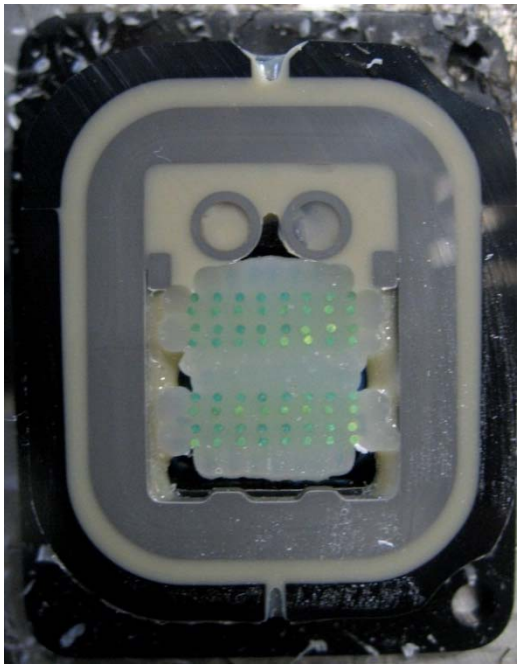


Test module cross sections

Test modules showed no leaks

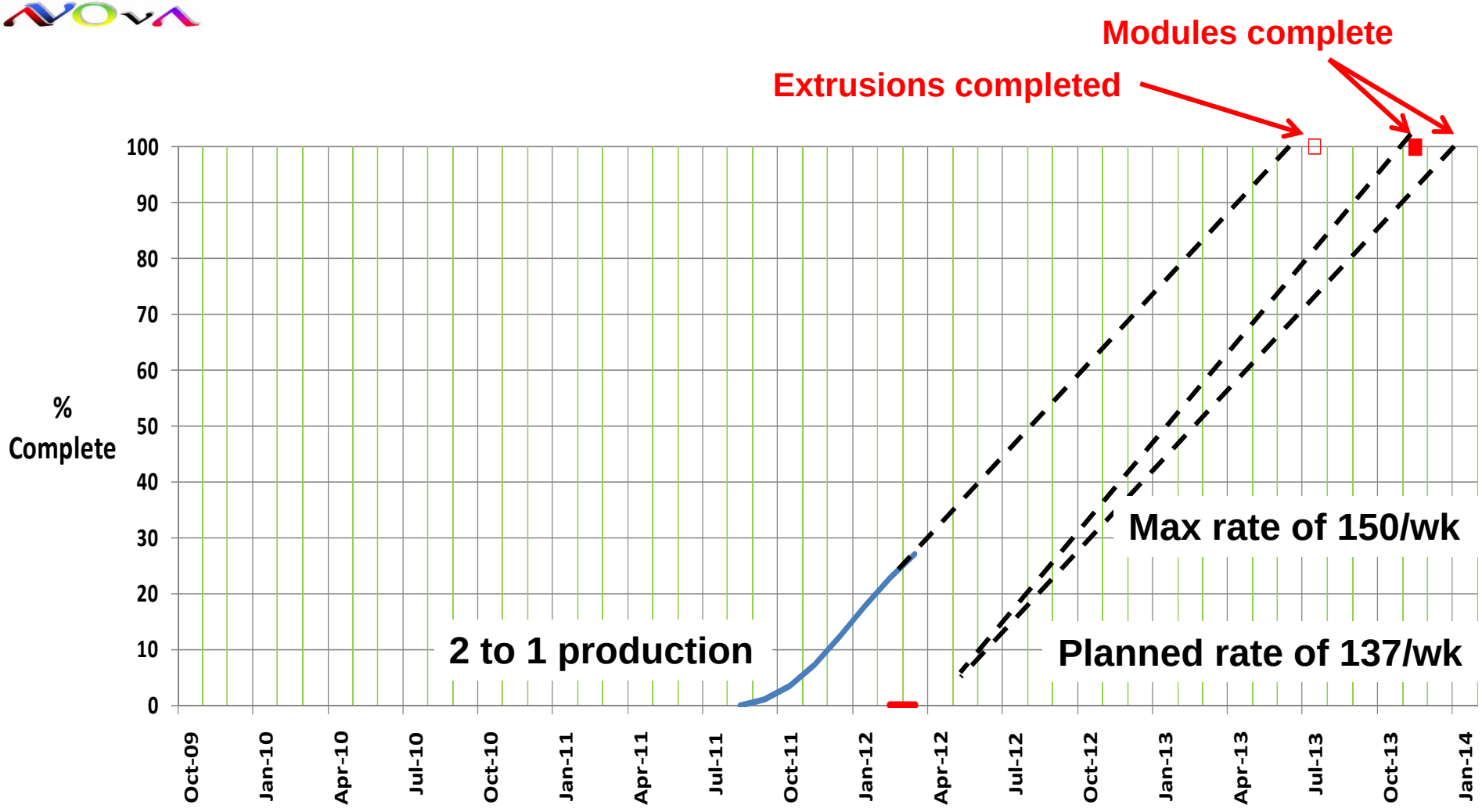


Test module cross-section of glue in hermetic seal



Test module cross-section of glue in optical connector

Module Production Schedule



Production ramp up complete – third week of May

Module Factory Schedule (baseline)

- March 1 – Start module production
- April 2 – Ship 2 planes (24 modules, one truckload) to Ash River
- April 16 – Ship 2 more planes to Ash River
- April 20 – Block 1 completed (197 modules)
- May 7 – Begin shipping 1 truckload (2 planes) per day to Ash River
- May 25 – Block 2 completed (384 modules)
- May 29 – Full production rate. 1 block/2.8 weeks