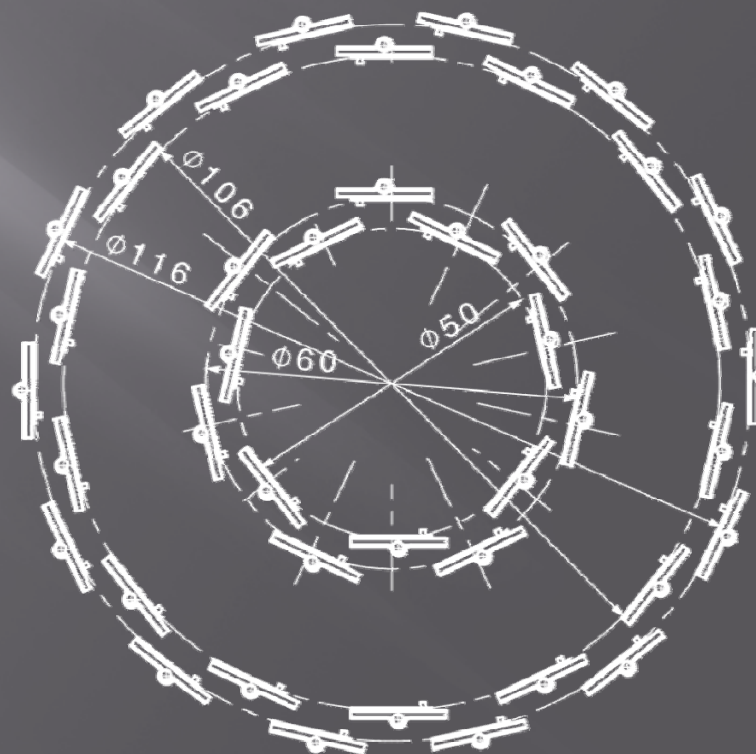
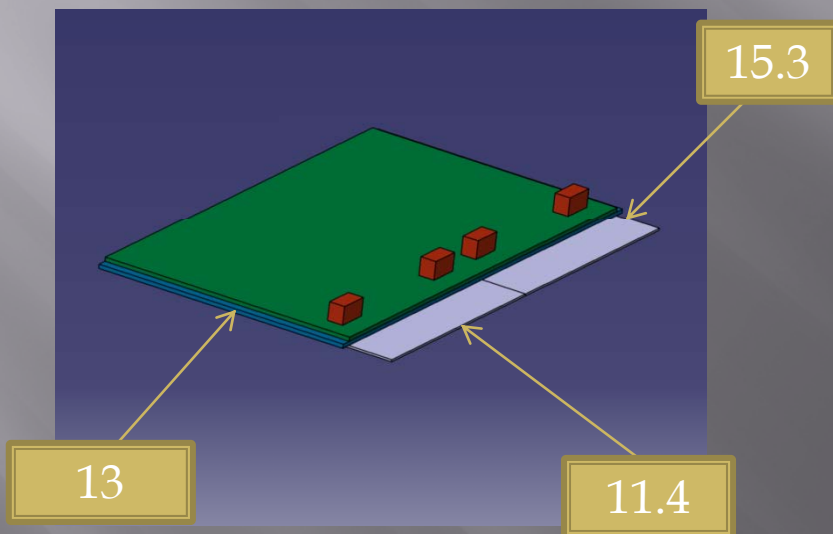


MVD UPDATES

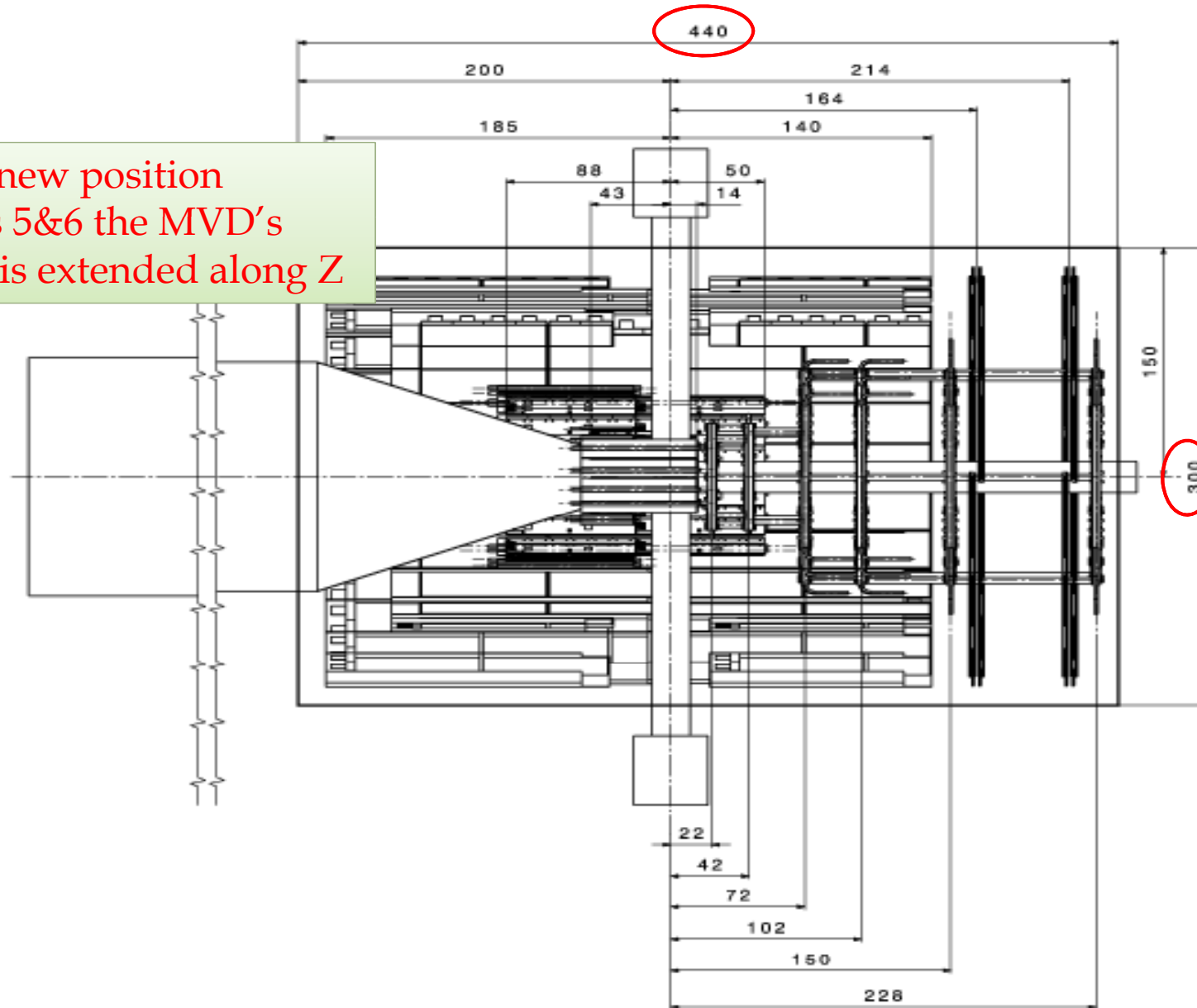
MEN AT WORK....

THE PIXELS MVD (FORWARD & BARREL) RE-DESIGNED

- 6 DOUBLE-SIDED DISKS
- 14 SUPER MODULES → LAYER 1
- 28 SUPER MODULES → LAYER 2



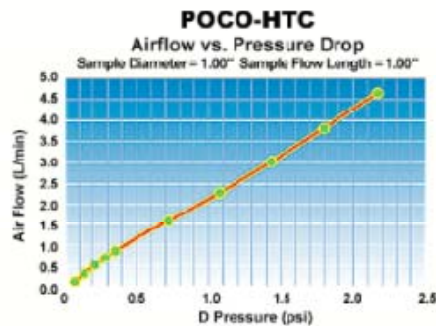
Due to the new position of the disks 5&6 the MVD's occupancy is extended along Z



The “philosophy” of the disks changed.... a little bit...

disk split in two halves along
the mid-plane
Material: foam POCO-HTC
embedded cooling capillary

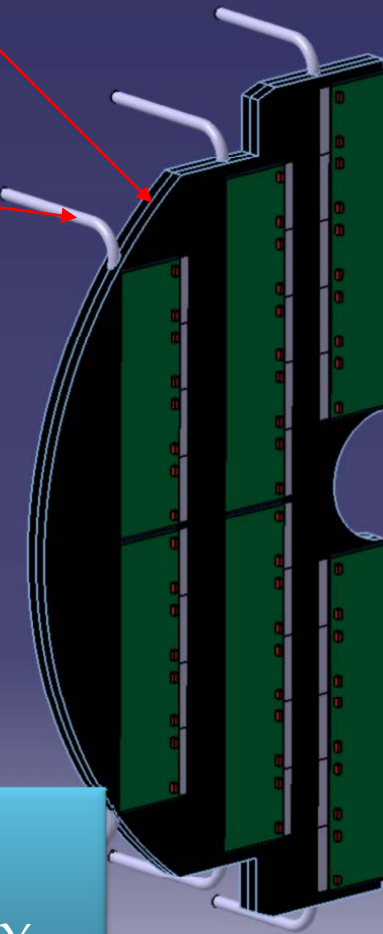
Properties & Characteristics



Typical Material Properties*

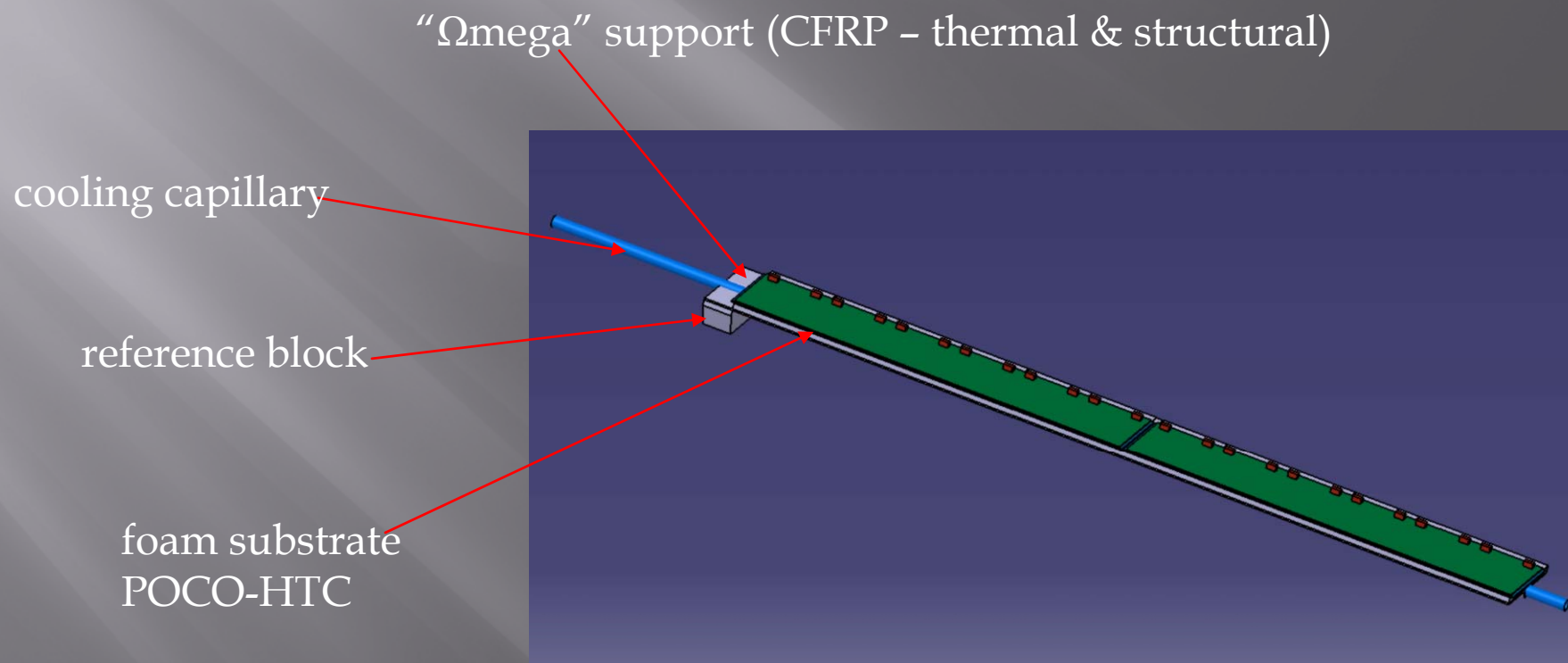
	Average
Density	0.9 g/cc
Compressive Strength	855 psi
Thermal Conductivity	
- Out of Plane	245 W/mK
- In Plane	7 W/mK
Total Porosity	61%
Open Porosity (% of total)	95%
Avg. Pore Diameter	330 microns

* Developmental stage material, properties may vary



ALL ELEMENTS GLUED WITH THERMAL GLUE.
PROBLEMS DUE TO LARGE GLUEING AREA.
LONG POT-LIFE AND HIGH THERMAL CONDUCTIVITY.

The general “philosophy” for the barrel elements not changed.

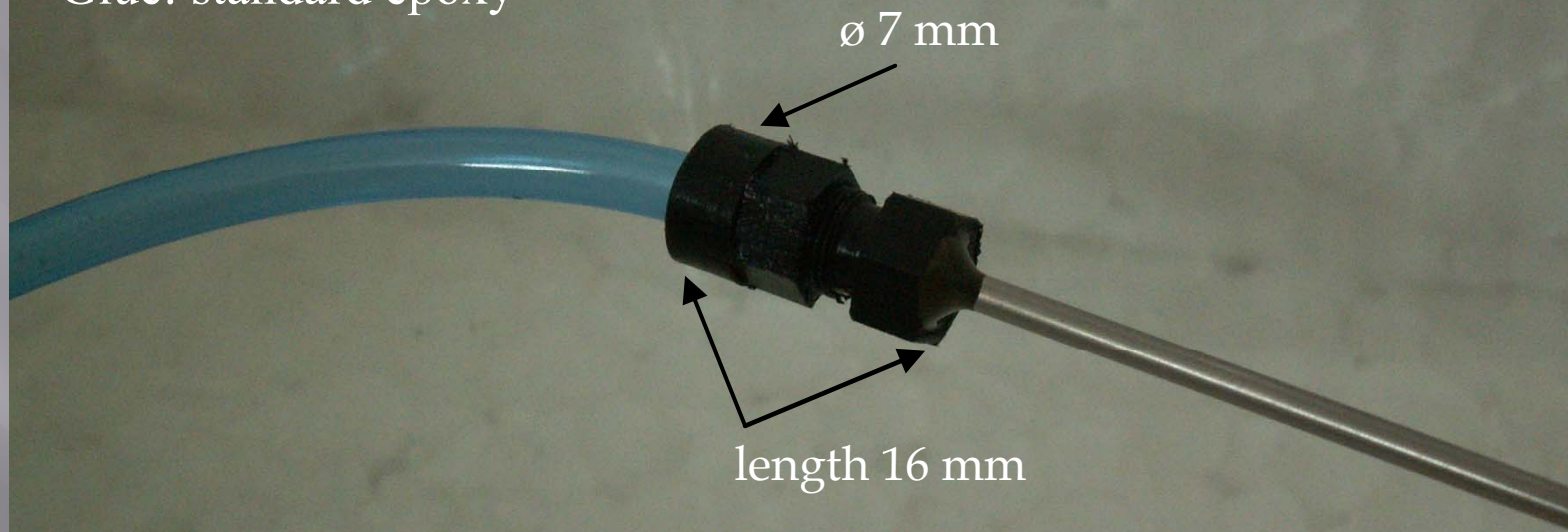


	L 1	L2	Disk 1	Disk 2	Disk 3	Disk4	Disk 5	Disk 6	Σ
Module 2	6		6	6					18
Module 3									
Module 4			2	2	4	4	4	4	20
Module 5	8				12	12	12	12	56
Module 6		6			4	4	4	4	22
Module 12		22							22
Power (W)	90	525	35	35	175	175	175	175	1385

New “home made” fitting for plastic/metal tube transition under test.

Material: hertalon

Glue: standard epoxy



Pressure: up to 3 bar

Temperature: 15 °C → 22°C

NEXT....

- Full integration Strips/Pixels subsystems
- MVD frame behavior study
- Services path study

- New heating resistors for cooling study
- Simulation/tests
- Cooling plant first proposal.....