

Cathode Production Status

BMU Week,
Aachen April 28th 2004

A. Benvenuti

INFN Bologna

- Cathode production resumed on April 12th after a 2 week long interruption caused by a delay in the I-beams extrusion.
- The final batch of ~ 6400 Phi type I-beams were loaded on April 9th and should be in Protvino by now.
- These extrusions are out of tolerances. In the acceptance measurements the ridges that define the glue thickness were found to be 0.13mm instead of 1.0. **This will require more glue.**
- The boxes with these extrusions (and cathodes) are marked with a **Blue A**. **They will be shipped only to Torino.**
- No major problems were found during the maintenance of the assembly lines at the end of March
- The quality of the cathodes was very good.

- The PCs for the plotters are very old, replacement parts are not available anymore. One was repaired in February by cannibalizing another PC (~ 800 \$).
- One major worry is the status of the air compressor that is failing quite often disrupting cathode production.
- The compressor, from a French Bubble Chamber, is probably beyond repair and might have to be replaced.

Shipments up to Completion

Nr	Date	PHI	MB1	MB2	MB3	CUT	Boxes	Cathodes	Cumulative
0	Bologna	9	1	3	3	0	16	14431	14431
1	04/07/01	3	1	0	0	0	4	3645	18076
2	30/11/01	9	1	0	0	0	10	9115	27191
3	19/04/02	9	2	1	0	0	12	11174	38635
4	06/06/02	9	1	1	1	0	12	11275	49640
5	29/08/02	7	1	1	3	0	12	10906	60546
6	06/12/02	7	2	2	1	0	12	11316	71862
7	07/02/03	8	1	2	1	0	12	11316	83178
8	06/03/03	11	1	0	0	0	12	11316	94494
9	24/04/03	8	1	1	2	0	12	11316	105810
10	17/06/03	10	1	1	0	0	12	11316	117126
11	24/07/03	8	3	1	0	0	12	11316	128442
12	20/10/03	4	0	1	1	6	12	11316	139758
13	17/11/03	6*	2	1	3	0	12	11316	151074
14	02/02/04	12	0	0	0	0	12	11316	162390
15	31/03/04	10*	0	1	1	0	12	11316	173706
16	24/05/04	12	0	0	0	0	12	11316	185022
17	28/06/04	13	0	0	0	0	13	12259	197281
	Total					6	211	197281	



MB1 Production Completed, last boxes shipped from CERN

Shipment 15 Sharing

Box Number	Type	Size (mm)	Quantity			Total	Data of Package	Address
			Cathodes	Mono				

15-1	Phi	2368	943	0		943	08.01.04	Aachen
15-2	Phi	2368	902	41		943	13.01.04	Aachen
15-3	Phi	2368	943	0		943	16.01.04	Aachen
15-4	Phi	2368	943	0		943	20.01.04	Legnaro
15-5	Phi	2368	943	0		943	29.01.04	Legnaro
15-6	MB3	2368	738	0		943	29.01.04	Legnaro
	Phi	3010	205	0				
15-7	Phi	2368	943	0		943	03.02.04	CIEMAT
15-8	MB2	2490	943	0		943	11.02.04	CIEMAT
15-9	Phi	2368	902	41		943	11.02.04	CIEMAT
15-10	Phi	2368	943	0		943	17.02.04	Torino
15-11	Phi	2368	943	0		943	20.02.04	Torino
15-12	Phi	2368	943	0		943	26.02.04	Torino
Total						11316		



Shipment 16 Sharing

16-1	Phi	2368	943	0			943	Torino
16-2	Phi	2368	943	0			943	Torino
16-3	Phi	2368	943	0			943	Torino
16-4	Phi	2368	943	0			943	Torino
16-5	Phi	2368	943	0			943	Torino
16-6	MB3	3010	253	0			943	Legnaro
	Phi	2368	690					
16-7	Phi	2368	943	0			943	Legnaro
16-8	MB2	2490	943	0			943	CIEMAT
16-9	Phi	2368	943	0			943	CIEMAT
16-10	Phi	2368	943	0			943	CIEMAT
16-11	Phi	2368	943	0			943	Legnaro
16-12	CUT	1978	~100	0			943	Legnaro
	Phi	2368	~843					
Total							11316	



Shipment 17 Sharing

17-1	Phi	2368	943	0			943	Legnaro
17-2	Phi	2368	943	0			943	Legnaro
17-3	Phi	2368	943	0			943	Legnaro
17-4	Phi	2368	943	0			943	Legnaro
17-5	Phi	2368	943	0			943	Legnaro
17-6	Phi	2368	943	0			943	Legnaro
17-7	Phi	2368	943	0			943	Legnaro
17-8	Phi A	2368	943	0			943	Torino
17-9	Phi A	2368	943	0			943	Torino
17-10	Phi A	2368	943	0			943	Torino
17-11	Phi A	2368	943	0			943	Torino
17-12	Phi A	2368	943	0			943	Torino
17-13	Phi A	2368	943	0			943	Torino
Total							12259	

Cathode Production Summary

Delivered Standard	Aachen		CIEMAT		Legnaro		Torino
	MB1	Phi	MB2	Phi	MB3	Phi	Phi
Up to N.15 168604	15776	30476	14803	35124	15467	41214	15744
End Prod 192079	15776	30476	15746	37010	15720	51234	26117
Required	-15363	-30076	-15363	-36392	-15363	-50800	-25445
Spares 3377	413	400	383	618	357	434	672
	Chimney		Chimney		Chimney		Chimney
Delivered 5222	841		1010		2551		820
Required	-800		-968		-2320		-772
Spare	41		42		231		48

Note:

The "Required" cathode includes about 4% spares for the Phi cathodes and 3% for the Theta.

- The spare for the “Chimney” type cathodes are concentrated in Legnaro (4 Chimney chambers)
- Some damaged extrusions (~100) were cut down to “Chimney” size and will be shipped to Legnaro,
- At the end of the production, the leftover I-beams will be converted to Phi type cathodes and shipped to CERN together with one assembly line and test jigs

Summary

- Apart for minor hiccups the cathode production is progressing very well
- If all goes well, we have only two
“Cathode Production Status” reports left