

LHC: FSG Yoke laminations with oxidation

Rev. 0 date 01.06.06 - Report about cleaning of first group of lamination batches delivered with oxidation (Ref. NC-CERN 378 rev.3)

Rev. 1 date 30.06.06 - Added the second group of lamination (Ref. NC-CERN 393)

Introduction

Here below is reported the list of all the batches of FSG laminations received from 26/04/06 on showing severe oxidation. As already done in the past the lamination were stacked into pack and the cleaning operation was done at the latest stage during the assembling operation for the half yoke preparation, before the assembly into the cold mass

List of lamination batches

The batches of laminations coming from FSG with oxidation are:

FSG 0485,	FSG 0532,
FSG 0494,	FSG 0525,
FSG 0497,	FSG 0536,
FSG 0500,	FSG 0534,
FSG 0495,	FSG 0531,
FSG 0496,	FSG 0535,
FSG 0499,	FSG 0527.
FSG 0498,	
FSG 0522,	
FSG 0523,	
FSG 0526,	

Lamination delivery

The following photos have been taken at the lamination delivery in Ormet and represents the status of laminations before the stacking of the packs.



FSG 0485



FSG 0494



FSG 0497



FSG 0495



FSG 0496



FSG 0499



FSG 0500



FSG0522



FSG 0498



FSG0523



FSG 0526



FSG 0532



FSG 0525



FSG 0536



FSG 0534



FSG 0531



FSG 0535



FSG 0527

Lamination cleaning

The following photos have been taken in ASG before or during the cleaning; they show the exact situation of the oxidation to be removed. In some case it covers almost the 100% of the outer surface of the yoke pack; the same is on the others packs of the same batch.



Batch FSG 0495



Batch FSG 0494



Batch FSG 0500



Batch FSG 0522



Batch FSG 0522 (details)

Summary

In the following table all the extra works hours, necessary in order to properly clean the yoke laminations are reported as well as the status of the laminations.

Batch id.	Extra hours	Status
FSG 0494	30	Cleaned and assembled into cold mass CM2356
FSG 0495	28	Cleaned and assembled into cold mass CM2355
FSG 0500	26	Cleaned and assembled into cold mass CM2354
FSG 0522	42	Cleaned and assembled into cold mass CM2350
FSG 0485	16	Cleaned and assembled into cold mass CM2344
FSG 0496	32	Cleaned and assembled into cold mass CM2336
FSG 0497	20	Cleaned and assembled into cold mass CM2346
FSG 0498	24	Cleaned and assembled into cold mass CM2362
FSG 0499	28	Cleaned and assembled into cold mass CM2364
FSG 0523		To be stacked
FSG 0526	30	Cleaned and assembled into cold mass CM2360
FSG 0532		Stacked to be cleaned
FSG 0525	32	Cleaned and assembled into cold mass CM2365
FSG 0536	24	Cleaned and assembled into cold mass CM2366
FSG 0534		Stacked to be cleaned
FSG 0531		Stacked to be cleaned
FSG 0535		To be stacked
FSG 0527		To be stacked
Total	332	

Conclusion

The time necessary about lamination cleaning depends on the level of oxidation; as shown in the previous photos the batch FSG 0522 took a lot of extra hours due to the very hard oxidation while on batches FSG0485 and FSG0497 the cleaning was easier. All the batches involved have the id. number around 500.

The other batches will be cleaned and the previous list will be updated.