

### **LHC: Yoke laminations from FSG with oxidation**

Here below is reported the list of all the batches received from FSG showing severe oxidation, and for some of them also the relevant pictures have been enclosed. Some of these batches have been already stacked, cleaned and assembled into cold mass; some other are at ASG stacked but not yet cleaned and some other are at ORMET still to be stacked.

The batches of laminations coming from FSG with oxidation were:

FSG 493,  
FSG 501,  
FSG 502,  
FSG 509,  
FSG 510,  
FSG 522,  
FSG 524,  
FSG 529,  
FSG 530,  
FSG 540,  
FSG 541,  
FSG 549,  
FSG 550,

### **Batches already assembled into cold masses**

The batches already stacked, cleaned and assembled into cold mass are two: FSG502 and FSG529.

For this two batches the oxidation was present but not severe and for this reason the yokes were cleaned (using scotch-brite) and then assembled. Here below are reported some photos about batch FSG529; the other one was almost in the same condition. In order to properly clean such yokes were necessary 5 hours of extra-works for each batch.



Lower Yoke (inner side)



Upper Yoke (inner side)

**Batches already stacked**

The batches already stacked and showing "light" oxidation which have to be cleaned before the assembly are five: FSG493, FSG501, FSG509, FSG510 and FSG524.

For this five batches the oxidation is present but not severe; the yokes have to be cleaned (using scotch-brite) and then assembled. Here below are reported some photos about batch FSG501; the other one was almost in the same condition. In order to properly clean such yokes will be necessary 8 hours of extra-works for each batch.





**Batches already stacked showing severe oxidation**

The batches already stacked and showing “severe” oxidation which have to be cleaned before the assembly are four: FSG530, FSG540, FSG549 and FSG550.

For this batches the oxidation is heavy; the yokes cleaning require brushing and a further action using scotch-brite. In order to properly clean such yokes will be necessary 1.5 hours/pack which means 24 hours of extra-works for each batch. Here below are reported some photos about batch FSG530 and FSG540; the other ones are in the same condition.



Batch FSG540



Batch FSG530



In the following photos are reported the result of the cleaning test on one pack.



**Batches still to be stacked**

Finally there are in stock at ORMET two batches still to be stacked: FSG522 and FSG541. The following photos show the present conditions of laminations. Note that the photo about batch FSG541 has been taken two days after the delivery with oxidation already evident.



In order to properly clean such lamination 1.5 hours/pack has been estimated which means 24 hours of extra-works for each batch



FSG541



FSG522

### 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.

<b>Batch id.</b>	<b>Extra hours</b>	<b>Status</b>
FSG 493	8	stacked and showing "light" oxidation
FSG 501	8	stacked and showing "light" oxidation
FSG 502	5	assembled into cold masses
FSG 509	8	stacked and showing "light" oxidation
FSG 510	8	stacked and showing "light" oxidation
FSG 522	24	still to be stacked
FSG 524	8	stacked and showing "light" oxidation
FSG 529	5	assembled into cold masses
FSG 530	24	stacked and showing "severe" oxidation
FSG 540	24	stacked and showing "severe" oxidation
FSG 541	24	still to be stacked
FSG 549	24	stacked and showing "severe" oxidation
FSG 550	24	stacked and showing "severe" oxidation
Total	194	