




Completing MQXFB production – screenshot of current status

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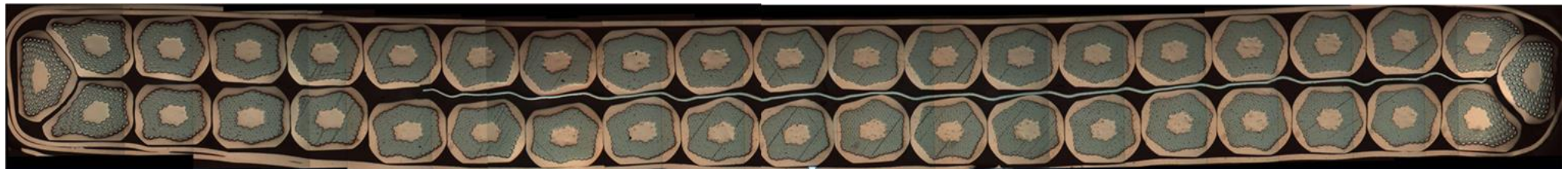
Conductor and cable

90 %


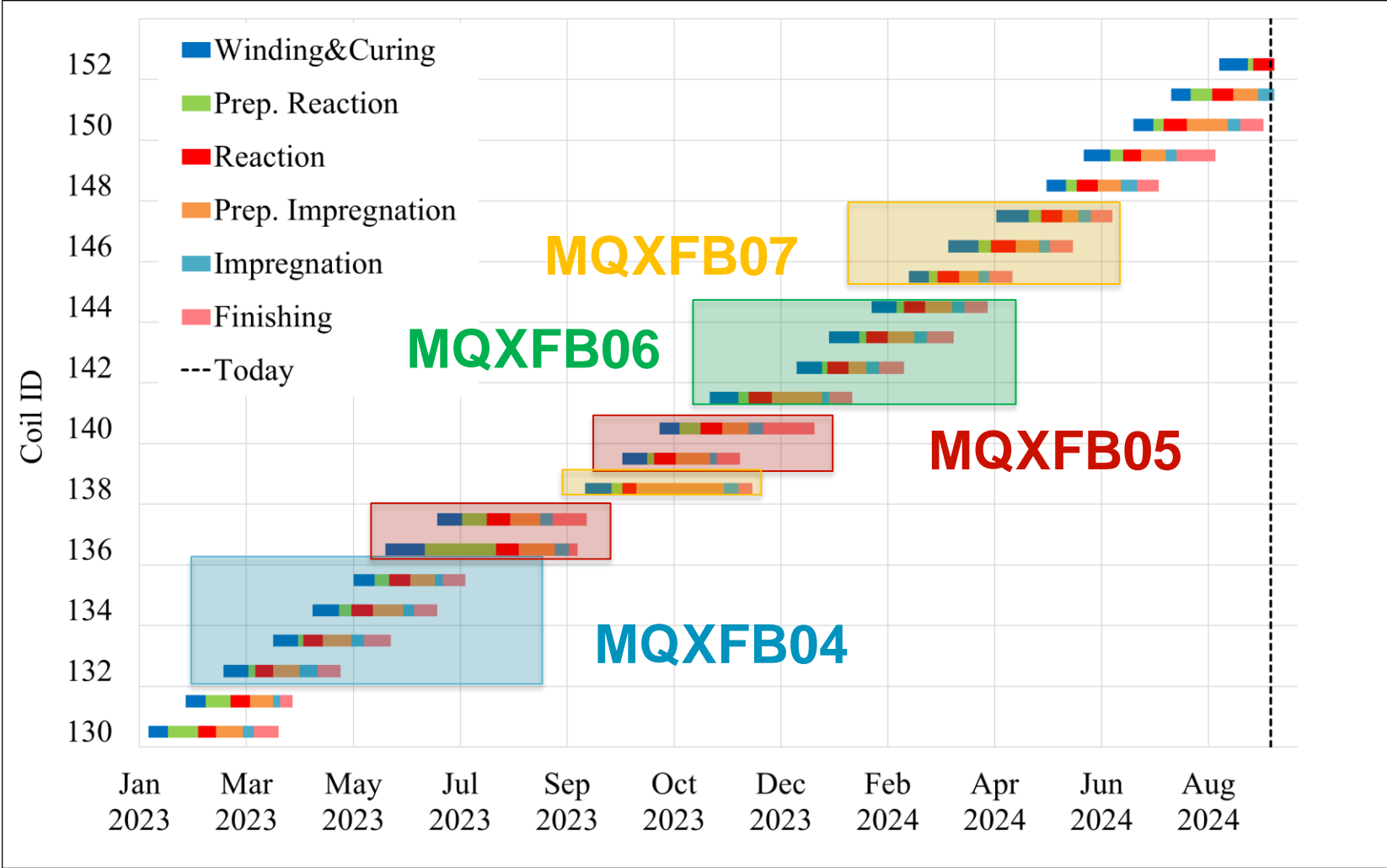
- MQXF coils are made with a Rutherford-type cable composed of 40 strands x 0.85 mm
 - Procurement of \approx 3000 km of wire, with UL 840 m
 - 460 km for the prototypes
 - 2160 km for the series (90 % received and accepted)
 - 340 km additional order as strategic stock, to be delivered in 2025 (Am7)
 - 8 RRP prototype cables and 55 series cables have been produced so far, with only two rejected cables
 - The 5 remaining cables to produce the baseline number of coil will be completed early 2025.
 - Counting on the margin on Am2-Am6, we might have strand to produce 2 additional ULs.
 - To be checked with Thierry, I guess they did not take long ULs to produce 12 T cable



Bruker-OST RRP 108/127



Coils

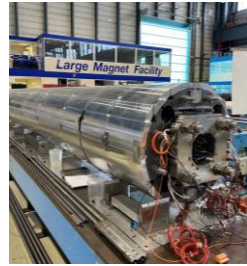


Last 12 months

- 3.5 magnets assembled last year, all following the **new assembly procedure with auxiliary bladders in the cooling hole channels** and all having the ‘**new generation**’ coils
- 1 magnet disassembled (due to [NCR 2940210](#), QH to coil short in coil 124)

MQXFB04

Sept-Oct 2023



MQXFB05

Feb-Mar 2024



MQXFB07

Sept-Oct 2024



MQXFB02

*Nov 2023
(disassembly)*



MQXFB06

May-June 2024



Coils vs Magnets


BP1	proto structure 1	structure dismantled and not usable	CR104/CR105/CR107/CR108
BP2	proto structure 2	structure used in BP2 for the IT string	CR110/CR111/CR112/CR113
BP3	series structure 1	structure used in BP3 for the IT string	CR115/CR117/CR118/CR119
B02	series structure 2	structure to be reused in another magnet	CR121/CR123/CR124/CR125
B03	series structure 3	ok. CR	CR128/CR129/CR130/CR131
B04	series structure 4	ok	CR132/CR133/CR134/CR135
B05	series structure 5	ok	CR136/CR137/CR139/CR140
B06	series structure 6	ok	CR141/CR142/CR143/CR144
B07	series structure 7	ok	CR138/CR145/CR146/CR147/
B08	series structure 8	ok	CR148/CR149/CR150/CR151
B09	series structure 9	ok	CR152/CR153/CR154/CR155/
B10	series structure 10	ok	CR156/CR157/CR158/CR159/
B11	series structure 2	ok (reused from B02)	CR160/CR161/CR162/CR163/
B12	missing		CR164/CR165/CR166/CR167/ CR168/CR169

coil left with approved number of coils*

*strand and components for 2 extra coils, but these are not in the baseline (margin to lose a cable on cabling/insulation)

completed OK
in fabrication
on hold

Cold mass/cryostat/test

50 %


- 2 Q2 cryo-assemblies ready, or in the very final preparation state, before being installed in the HL-LHC string^{1,2} (MQXFBP2 and MQXFBP3)
- 1 Q2 cryo-assembly fully qualified for HL-LHC installation (MQXFB04)
- 1 Q2 cryo-assemblies ready to be tested (MQXFB03 (already tested in temporary cold mass))
- 1 Q2 cryo-assembly is being tested (MQXFB05)
- 1 cold mass under fabrication (MQXFB06) and 1 magnet being assembled (MQXFB07)
- 4 to 5 more magnets to be built

