



Plans for second prototype and series

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- Second MCBXFB prototype.
- Long magnet prototype (MCBXFA).
- Series.
- Conclusions.

Second prototype

- The production of the second prototype will be started immediately after the first one. It is needed by the end of 2019. It is produced in house because of the delay to sign the Collaboration agreements.
- The tooling does not need any modification.
- We need to launch the tendering for the production of collars by fine blanking. The cost of laser+EDM cutting is not affordable.
- We are contacting companies to produce the copper wedges by extrusion. The cost of milling is too high.
- The rest of components will be produced in the same way than the first prototype.
- The fabrication of the magnet is waiting for the signature of the agreements (mid November).

Second prototype schedule

	Task	
Fabrication	Insulated cable	Nov-18
	Coils	Sep-19
	Collars	Sep-19
	Assembly at CERN	Oct-19
Test	Magnet prototype in vertical cryostat	Dec-19

- We are assuming seven weeks per coil.
- The production of endplates and ancillary parts is not shown in the schedule, because it is not in the critical path.

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Long magnet prototype (I)

- The production of the long magnet prototype at CIEMAT is under discussion. It is a plan B because of the delay to sign the agreements.
- Same cross section, one meter longer.
- We have started to evaluate the tooling modifications.
- Most of the tooling developed for the short model can be re-used as it is or with extended length:
 - Winding machine: new beam
 - Winding tooling: new mandrels, additional clamping
 - Binding mould: additional tiles
 - Impregnation mould: new upper plate and base, additional mandrel parts
 - Collaring tooling: additional parts
 - Assembly tooling: additional parts

Long magnet prototype (II)

- Some tooling must be completely new: vacuum chamber for impregnation, pre-forming of ground insulation and collaring shoes.
- Same end spacers and cross section of wedges
- Same collars and endplates
- Some problems of space in our assembly hall, but crane bridge has enough capability.

Long magnet prototype schedule

	Task	
Design	Magnet	Dec-18
	Tooling	Apr-19
Fabrication	Winding tooling	Jul-19
	First ID coil	Nov-19
	Rest of coils	May-20
	Assembly at CERN	Jun-20
Test	Magnet prototype in vertical cryostat	Jul-20

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Series production

- The tendering cannot start before the signature of the agreements.
- Meanwhile, we will prepare the documentation.
- We hope that the call for tenders will be in January'19 and the signature of the contract in May'19.

Conclusions

- Second short magnet will be done next year at CIEMAT.
- The production of the first long prototype at CIEMAT is under discussion.
- The series contract must be signed as soon as possible.
- We base our estimates on the Collaboration Agreement signature by mid November.

Thanks for your attention