



DFH QA in the Context of the WP6A QA Plan

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Documentation Management

- Documentation managed and approved in accordance with WP6A documentation plan, [EDMS 2369877](#)
 - Attached to HL-LHC [WP6A workspace](#) in EDMS
- Approval of all key documents:
 - QA correspondents of WP6A and of the TE-MSD sections review all documentation with quality impact
 - DWPL reviews all documents
 - MIP templates approved by WPL and TE-MSD GL
 - Manufacturing procedures and reports approved by WPE and SL/WPL as appropriate
 - NCRs (of any impact) require WPE and WPL approval (whether raised by the manufacturer, collaboration or CERN)

Traceability and Asset Management

- Assets registered in MTF for each manufactured DFH component and assembly
- Traceability to production steps
 - MTF production steps to be defined consistently with MIP steps
 - Production data/reports, completed MIPs and NCRs to be attached to corresponding MTF step
- Traceability to parts and raw material batches
 - ID scheme to be agreed with manufacturers or collaboration; mapping to CERN asset ID recorded in MTF
 - Raw materials certificates stored in EDMS and attached to assets
- Document upload by entity responsible for the step, with support from WP6A quality coordinator and HL-LHC quality office
- CERN acceptance of each step

Specific Documentation for Manufacturing, Assembly and Qualification

- Manufacturing drawings to ISO-GPS standards
- Manufacturing and Inspection Plans
- Welds
 - Welding book
 - Welder certifications (ISO 9606-1)
 - Weld qualification (ISO 15614-1)
 - Weld visual and radiographic inspection reports (ISO 17637, ISO 17636-1)
- NDT operator certification (ISO 9712 NDT level2)
- Cleaning procedure and reports
- Pressure test procedure and reports
- Leak test procedure, report, personnel certification (ISO 9712)
- Dimensional check reports