



Non conformities Status: HCACFCA001-RN000001/2

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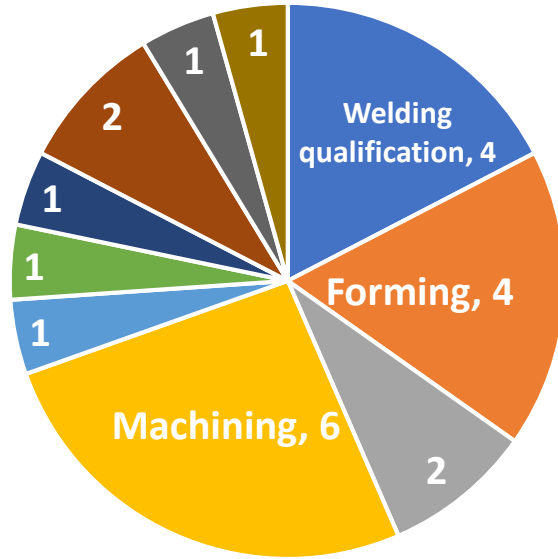


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Nonconformities Pre-Series production

NCR ID	Equipment	Short Description	Status	Criticality	Issued by	Action Taken	Process
2188175	DQW cavity	Nonconformity WPQR 007 Bare Cavities	Closed	Non Critical	RI	Concession	Welding qualification
2222647	DQW cavity	Nonconformity WPQR 014 Bare cavities	Closed	Non Critical	RI	Concession	Welding qualification
2229210	DQW cavity	Nonconformity WPQR 008 and WPQR 017	Closed	Non Critical	RI	Concession	Welding qualification
2242699	DQW cavity	Bowl thickness	Closed	Non Critical	RI	Concession	Forming
2242738	DQW cavity	Elliptical cap thickness	Closed	Non Critical	RI	Concession	Forming
2271792	DQW cavity	Thickness reduction weld between extension tube and HOM/FPC port	Closed	Non Critical	RI	Concession	Design modification
2307879	DQW cavity	FPC port tube	Closed	Non Critical	RI	Concession	Machining
2338730	DQW cavity	Thickness reduction welds 35 and 36	Closed with Warnings	Non Critical	RI	Concession	Design modification
2338731	DQW cavity	Penetration of welds 17 and 18 (banana)	Closed with Warnings	Non Critical	RI	Concession	Welding qualification
2360124	DQW cavity	NCR Top ring P111520_20	Actions Underway	Non Critical	RI	Repair	Deep drawing
2360135	DQW cavity	NCR ToP ring P111520_06	Closed	Non Critical	RI	Scrap	Engraving
2360141	DQW cavity	NCR Main body recalibration	Actions Underway	Non Critical	RI	Repair	Forming
2364755	DQW cavity	Short Pick up tubes 4094_P111029_01/02/03/04 and Pick up tubes 4094_P111022_01/02/03/04	Actions Underway	Non Critical	RI	Repair	Bending
2380193	DQW cavity	NCR Elliptical cap scratches after forming P111520_01	Actions Underway	Non Critical	RI	Repair	Forming
2380218	DQW cavity	NCR welding extension pipes	Evaluation	Non Critical	RI	Scrap/Repair	Welding
2413645	DQW cavity	NCR-Dimensional control Bowl	Actions Underway	Non Critical	RI	Concession	Machining
2414585	DQW cavity	NCR-Dimensional control main body	Actions Underway	Non Critical	RI	Concession	Machining
2414587	DQW cavity	NCR- Dimensional control beam flanges	Closed with Warnings	Non Critical	RI	Repair/Concession	Machining
2419566	DQW cavity	NCR weld ring with tank connection port	Closed with Warnings	Non Critical	RI	Repair/Concession	Welding
2423795	DQW cavity	NCR- shorter top elliptical cap	Actions Underway	Non Critical	RI	Repair	Machining
2427293	DQW cavity	NCR-Pick-up flange vacuum grooves	Closed	Non Critical	RI	Concession	Machining
2610747	DQW cavity	UT Thickness measurements after BCP	Closed	Non Critical	RI	Concession	Testing
2614464	DQW cavity	RF Measurement at cold - HCACFCA001-RN000001	Actions Underway	Critical	RI	Repair	Cold Test - Performance

Nonconformities Pre-Series production



~50% of Nonconformities related to Forming and Machining operations

Preventive actions from the NCRs detected from this production to avoid recurrence during the Series

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|---------------------------|----------------|-----------------------|
| ■ Welding qualification | ■ Forming | ■ Design modification |
| ■ Machining | ■ Deep drawing | ■ Engraving |
| ■ Bending | ■ Welding | ■ Testing |
| ■ Cold Test - Performance | | |

Nonconformities Pre-Series production

- Nonconformities should be taken as a lesson learned
- Avoid recurrence in series production is a must (preventive actions to be taken into account for future production) in order to improve efficiency
- Evaluation is not always straight forward, and it brings extra work and resources at CERN too (design studies, simulations, etc.). This is a lengthy process and highly dependent on resources availability
- In many cases, the impact of the nonconformity is not fully clear until the final test of the cavity is performed