



# Status of RF Tests on Series Cavities for European XFEL

Detlef Reschke / DESY for all colleagues working on XFEL series cavities





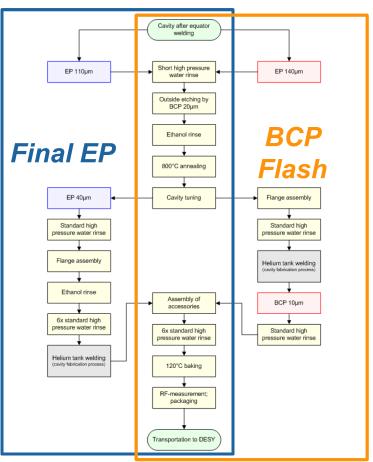




### FEL Introduction: Cavity Surface Preparation



- Two schemes for the final surface treatment:
  - E. Zanon: **BCP Flash**
  - Research Instr.: Final EP

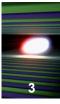


- At each company:
  - 4 Cav's for set-up of infrastructure
  - 4 Cav's for qualification of infrastructure
- Close supervision of infrastructure, processes, procedures and handling by DESY + INFN Milano required
- No performance guarantee results in:
  - the risk of unexpected low gradient or field emission is with DFSY
  - responsibility for re-treatment at DESY





## **Status of (Pre-)Series Cavities**



#### RI:

- several cavities mechanically completed (w/o He-tank)
- surface preparation started (waits for final qualification of all preparation steps)

#### EZ:

- 7 pre-series cavities arrived at DESY
  - => 2 qualified
  - => 1 requires add. HPR due to early FE
  - => 4 cavities to be tested / vertical test ongoing
- series production + surface treatment started
- start of delivery of series cavities end of Feb 13

#### DESY:

- new test infrastructure at AMTF started operation (cryostat 1 with insert 1)
- first cavities successfully tested



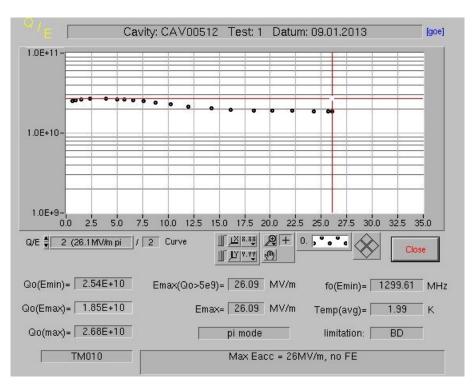


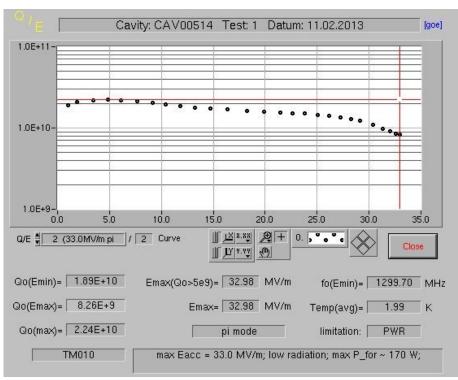


## XFEL EZ: Cavity results



CAV00512 + CAV00514: Qualified for string assembly





CAV00512 limited by quench, no radiation

CAV00514 limited by power, some radiation





