OEM Test Matrix – HD4 new design 24 kV up to 1250A and 25 kA

- **Dielectric Test**
  - Fixed version:
    - OEM needs to repeat the test
  - Withdrawable version:
    - OEM needs to repeat the test
  - Withdrawable version with PowerCube:
    - Test already performed by ABB so no need to repeat

- **Temperature rise test & measurement of the resistance of the main circuit**
  - Fixed version:
    - Replacing actual HD4 with new design HD4: due to the fact that the resistance of the new pole is equal/lower to the actual pole, a temperature rise test valid for a breaker with the actual pole is still valid for the new pole. Needed are the type test with the new pole in UniGear together with the actual pole test in the OEM panel
  - Withdrawable version with OEM cassette/panel:
    - Replacing actual HD4 with new design HD4: due to the fact that the resistance of the new breaker is equal to the actual pole, a temperature rise test valid for a breaker with the actual pole is still valid for the new pole. Needed are the type test with the new pole in UniGear together with the actual pole test in the OEM panel
  - Withdrawable version with PowerCube:
    - Replacing actual HD4 with new design HD4: due to the fact that the resistance of the new breaker is equal to the actual pole, a temperature rise test valid for a breaker with the actual pole is still valid for the new pole. Needed are the type test with the new pole in UniGear together with the actual pole test in the OEM panel

- **STC test**
  - Fixed version:
    - Test for the pole to withstand the mechanical forces has been carried out on the breaker in UniGear. Furthermore, the panel has been able to withstand the test with new design pole, therefore does not need to be repeated
  - Withdrawable version:
    - Test for the pole to withstand the mechanical forces has been carried out on the breaker in UniGear. Furthermore, the panel has been able to withstand the test with new design pole, therefore does not need to be repeated
  - Withdrawable version with PowerCube:
    - Test for the pole to withstand the mechanical forces has been carried out on the breaker in UniGear and PowerCube. Furthermore, the panel has been able to withstand the test with new design pole, therefore does not need to be repeated

- **Making & Breaking test / single phase tests; double earth fault test**
  - Fixed version:
    - Test for HD4 has been carried out on the breaker in UniGear. Furthermore, the panel has been able to withstand the test with new design pole therefore does not need to be repeated
  - Withdrawable version:
    - Test for HD4 has been carried out on the breaker in UniGear. Furthermore, the panel has been able to withstand the test with new design pole therefore does not need to be repeated
  - Withdrawable version with PowerCube:
    - Test for HD4 has been carried out on the breaker in UniGear. Furthermore, the panel has been able to withstand the test with new design pole therefore does not need to be repeated
- **Mechanical Lifetime test**
  - Fixed version:
    - Independent from switchgear, therefore the already performed test from ABB can be used without declarations
  - Withdrawable version:
    - Independent from switchgear, therefore the already performed test from ABB can be used without declarations
  - Withdrawable version with PowerCube:
    - Independent from switchgear, therefore the already performed test from ABB can be used without declarations
- **Capacitive switching**
  - Fixed version:
    - Test only depends on the used new pole, its stroke and opening speed of the drive. Consequently, a test for the breaker can directly be applied to other panels. Concerning line charging: this test is not applicable. Concerning single bank switching: this test can be deducted from the carried out tests with cable charging and back-to-back switching
  - Withdrawable version:
    - Test only depends on the used new pole, its stroke and opening speed of the drive. Consequently, a test for the breaker can directly be applied to other panels. Concerning line charging: this test is not applicable. Concerning single bank switching: this test can be deducted from the carried out tests with cable charging and back-to-back switching
  - Withdrawable version with PowerCube:
    - Test only depends on the used new pole, its stroke and opening speed of the drive. Consequently, a test for the breaker can directly be applied to other panels. Concerning line charging: this test is not applicable. Concerning single bank switching: this test can be deducted from the carried out tests with cable charging and back-to-back switching

- **Mechanical compatibility / Rack In-Out Test**
    - Fixed version
        - Not Applicable
    - Withdrawable version
        - OEM needs to repeat the test
    - Withdrawable version with PowerCube:
        - Test already performed by ABB in UniGear panel so no need to repeat