Low Temp Test procedure for EVs

Revised ACEA EV proposal taking discussions and feedback of SG EV meeting on February 13th and JPN proposal into account

Status: 18.02.2020
Pure electric vehicles

ACEA TF EV Low Temp Test Procedure proposal
Status: 18.02.2020
Test Procedure (PEV) – Shortened Test Procedure or Consecutive Cycle Procedure
Proposal for -7°C Procedure – Base procedure with no customer preconditioning action

Proposal ACEA TF EV (revised version based on SG EV meeting on February 13th):

   → Without any unjustified delay
2. End test cycle (-7°C) and placing in soak (-7°C): max.: [30] min where max. [20] min for transfer
   → without any unjustified delay, connecting to grid within max. [30] min
   → Without any unjustified delay; vehicle shall not receive unjustified exposure to temperatures higher than -7°C; in case that is unavoidable, this shall not be longer than [20] min
   → Note: only max. [30] min between different tests on the dyno shall not be exceeded (only related to dyno warm-up)
Test Procedure (PEV) – Procedure determination
Procedure selection flow chart – option 1 (with existing procedures)
(N)OVC-HEVs

ACEA TF EV Low Temp Test Procedure proposal
Status: 18.02.2020
Test Procedure (OVC-HEV) – Charge Depleting Test

Proposal for -7°C Procedure – Base procedure with no customer based preconditioning action

Proposal ACEA TF EV (revised version based on SG EV meeting on February 13th):

<table>
<thead>
<tr>
<th>Soak-Area (no restricted temp condition)</th>
<th>Transfer</th>
<th>-7°C Soak-Area</th>
<th>Transfer</th>
<th>Dyno @-7°C (-7°C adjusted RL)</th>
<th>Transfer</th>
<th>-7°C Soak-Area</th>
<th>Transfer</th>
<th>Dyno @-7°C (-7°C adjusted RL)</th>
</tr>
</thead>
</table>

Soak

Set SoC level to allow break-off criterion to be reached during PreCon

Precon

1 WLTC (break-criterion reached)

Soak & Charge

Soaking of vehicle reflecting an overnight stay and full charge of REESS

CD-Test

Test

Temp: -7°C

Temp: 23°C

Report time

First soak should be in square brackets for the moment until impact is finally proven

>=12h, max. 36h (REESS shall be fully charged) (report time)

JPN proposal need to be checked (especially case 2)

2. End test cycle (-7°C) and placing in soak (-7°C): max.: [30] min where max. [20] min for transfer → without any unjustified delay, connecting to grid within max. [30] min
3. Leaving soak (-7°C) until starting test in test cell (-7/23°C): max.: [40] min (transfer: max. [20] min, preparation on dyno: max. [20] min) → Without any unjustified delay; vehicle shall not receive unjustified exposure to temperatures higher than -7°C; in case that is unavoidable, this shall not be longer than [20] min → Note: only max. [30] min between different tests on the dyno shall not be exceeded (only related to dyno warm-up)
Test Procedure ((N)OVC-HEV) – Charge Sustaining Test
Proposal for -7°C Procedure

ACEA proposal Charge-Sustaining Test (revised version based on SG EV meeting on February 13th):

   → Without any unjustified delay
2. End test cycle (-7°C) and placing in soak (-7°C): max.: [30] min where max. [20] min for transfer
   → without any unjustified delay
   → Without any unjustified delay; vehicle shall not receive unjustified exposure to temperatures higher than -7°C; in case that is unavoidable, this shall not be longer than [20] min
   → Note: only max. [30] min between different tests on the dyno shall not be exceeded (only related to dyno warm-up)

Set SoC level to allow break-off criterion to be reached during PreCon

Temperature still in discussion within ACEA EV as a manufacturer option, allow to omit this sequence

JPN proposal need to be checked