

Proposal for IGPG: Wiper tests – Lab test for approval (Subgroup 2)

Meeting on 3rd and 4th September OICA Paris:

Define and agree in the task force a planning of activity to reach the final target of the group:

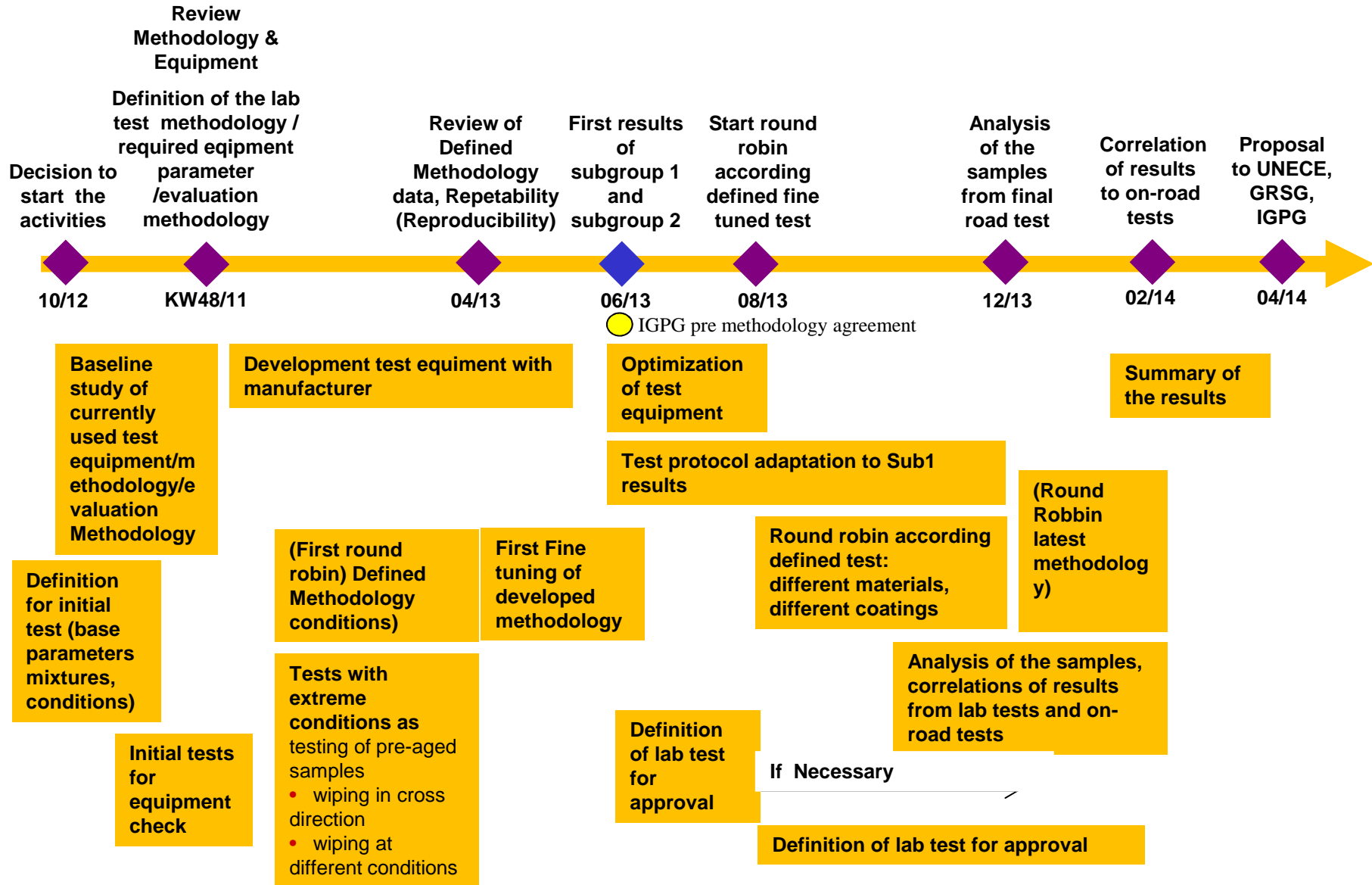
1. Define principle test setup/test machine
2. Define procedure / test protocol
3. Propose an evaluation methodology
4. Check Repeatability and reproducibility
5. Correlate with Subgroup I - onroad results

Participants:

Sabic, Bayer, Evonik, Freeglass, Momentive, Bosch, Renault, PSA, KRD, OICA, (VDA proposal doc.)

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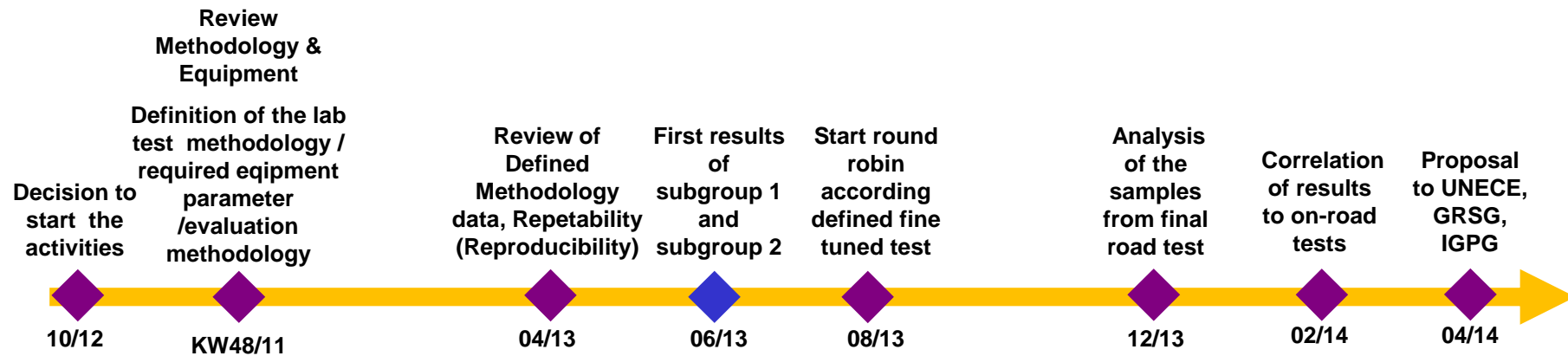
Activities for lab tests: Timeline



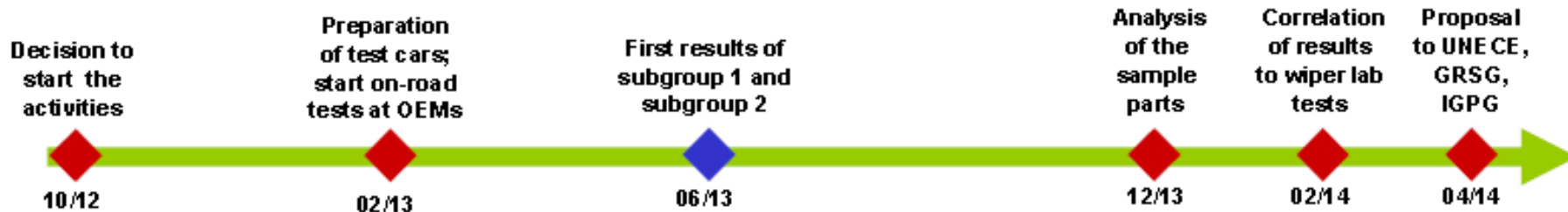
Proposal for IGPG: Wiper tests – Lab test for approval

(Subgroup 2)

Activities for lab tests: Timeline Subgroup 2 check vs Subgroup 1



(Subgroup 2)



(Subgroup 1)

Proposal for IGPG: Wiper tests – Lab test for first equipment alignment (Subgroup 2)

Activities for lab tests: Working plan Bayer, Evonik, Audi (TBD), Bosch (TBD)

Setting base parameters for equipment

basic settings of “ISO 11998” - equipment (reciprocating scrub testing machine)

scrub rate: 37 ± 2 scrub cycles/min (back and forth)

stroke length: 300 ± 10 mm

mass of scrub pad holder (downward force on the sample): 135 ± 1 g

test sample size: e.g. 150 x 100

wipe speed: e.g. 15 cm/s

wiper load: e.g. 20 g/cm

wiper blade type: e.g. CR-type

reversal point of the wiper have to be on the test sample

Definition of test mixture with artificial dirt

Mixture according ISO 9616, composed by volume:

92,5% water (with a hardness of less than 205 mg/l after evaporation);

5% aqueous saturated salt (sodium chloride) solution;

2,5 % dust (type ISO 12103-1 A4)

1- Dry condition with dirt A4 1000 – 3000 – 5000 cycle

2- Wet Condition with dirt 5000-25000 cycle Slurry / Basin

BOSCH CR-Type

Check Haze, (Roughness)

Proposal for IGPG: Wiper tests – Data Review (Subgroup 2)

a. Test methodology- instrument settings and test protocols

- I Range of experimental parameters (velocity, load, slurry flow etc)
- II Adaptability of environmental conditions (heat, humidity, hazards etc.)
- III Experimental results
- IV Post wiper evaluation methods and criteria (interpretation of results)
- V Type of samples tested

b. Test equipment

- I Robust enough to run 24/7/360 with extreme conditions (with dust, dry dirt, mud slurry, temperature, UV radiation etc.)
- II Test parameters (machine capabilities)
- III Automation (robotic) – ability to run the full test sequence and conditions unattended

c. Test repeatability and reproducibility based on operational experience. Provide the details of test equipment and methodology

- I Repeatability and reproducibility
- II Correlation of data with big scale tester (wiper stand)
- III Correlation with field data (fleet vehicle)
- IV Availability of the machine for evaluation at different locations

Proposal for IGPG: Wiper tests – Lab test for approval (Subgroup 2)

Activities for lab tests: Working plan

Definition of the lab test (equipment and conditions) for approval

Procedure round robin tests according defined lab test

Investigation of test reproducibility

Investigation of samples made of different materials and with different coatings

Definition of criteria/critical values for windshields of plastic glazing

Correlation of test results with wiper lab tests

Definition of tests and test conditions

Definition of criteria for windshields of plastic glazing

Summary of the results

Proposal to the UNECE, GRSG, IGPG

Proposal for IGPG: Wiper tests – Resin / Coating (Subgroup 2)

Resin / Coating proposal from Subgroup 2 to be evaluated with Subgroup 1

1. PMMA + Polysiloxane coating
2. PC + Polysiloxane coating (Momentive AS4700 system)
- (3. PC + Polysiloxane coating (KRD) TBD about vehicles availability)
4. Glass
 - LT > 75%
 - Thermoformed
 - Coating applied manually (with measurement of initial haze, Coating Thickness, coating quality check)
 - Colour
 - Sample thickness

**Proposal for IGPG: Meeting W48/2012
(Subgroup 2)**

EVONIK proposed to host the meeting in W48 in Darmstadt