Test Bench Foam Definition

GRSP Informal Group CRS Testing
8th meeting at BASt in Cologne
January 21, 2009

Prepared by: Kees Waagmeester
Drafting of Definition so far

- Document CRS 06-02:
  - NPACS Bench extended width for testing of carrycots
  - Dimensions as shown:

- Stiffness based on NPACS research:
  NPACS foams: T75500 seat and T43250 backrest
- Foam cover – Sun shade cloth made of poly-acrylate fiber
Progress and issues

- Dimensions

**GRSP IG CRS 06-02:**

**NPACS document Annex 13:**

Questions that arose are:

<table>
<thead>
<tr>
<th></th>
<th>GRSP CRS-06-02</th>
<th>NPACS Drawings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Squab thickness</td>
<td>125.6</td>
<td>130.0 (?)</td>
</tr>
<tr>
<td>Squab recess depth</td>
<td>100.0</td>
<td>96.6 (?)</td>
</tr>
<tr>
<td>Backrest height</td>
<td>530.0</td>
<td>590.0 (?)</td>
</tr>
<tr>
<td>Foam width at R-point</td>
<td>220.0</td>
<td>250.0 (?)</td>
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</tbody>
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TRL promised to provide clarification.
Progress and issues

- Stiffness based on NPACS research
  NPACS foam definition: T75500 seat  T43250 backrest (Annex 12):
  - Proposed to use T75500 for both seat and backrest (to be confirmed)
  - No test data of NPACS dynamic foam tests available.

Questions that arose:

- Are the peak results presented in NPACS research average values of three tests per bench?
- What is the time history of the results?
  - Does bottoming out occur?
  - What are the penetrations recorded?
- The UNECE R44 test set-up is not described.
  - What kind of set-ups are used?
- What are acceptable tolerances on drop test results?

Support requested from: TRL, BASf, TUB, UTAC, IDIADA, Britax and Dorel
Actions

- Confirmation to use T75500 foam for both seat and backrest  
  GRSP CRS 8th meeting

- Confirmation which dimensions are to be used  
  TRL

- Pictures of UNECE R44 bench foam drop test setups from several test labs.  
  How is this done in other regulations USA/Australia?  
  Test labs  
  FTSS

- Test data (acceleration and penetration) obtained in drop tests on bench foams (R44 and NPACS)  
  Test labs and TRL

- Contact with vendor on production tolerances and product consistency in the future  
  FTSS

- Compilation of a draft bench foam specification  
  FTSS
Any Questions?

*FTSS needs input and support...*

... to draft an appropriate bench foam definition.