ANNEX 1

Results of Test Laboratories

Results Lab. No. 1

Tempterature at the test: 23C
rel. humidity at the test: 47%

RESULTS:

TYPE 50mm

	Nominal height	Test points P1 Effective drop height	HIC	a_{max} [g]	Δt_{HIC} [msec]	P2 Effective drop height	HIC	a_{max} [g]	Δt_{HIC} [msec]	P3 Effective drop height	HIC	a_{max} [g]
Tile P I												
Drop height H1=	1200mm	1198mm	700.5	136.2	5.9	1259mm	724.5	138.8	5.5	1201mm	676.9	133.9
Drop height H2=	1400mm	1388mm	974.9	165.4	4.8	1438mm	989.7	166.8	4.9	1433mm	981.9	163.1
Drop height H3=	1600mm	1618mm	1290.8	193.6	4.9	1580mm	1223.0	187.1	4.5	1623mm	1242.8	184.3
Drop height H4=	1800mm	1816mm	1703.2	226.0	4.6	1842mm	1623.5	218.2	4.6	1808mm	1549.2	208.2
Drop height H5=	1200mm	1187mm	717.2	139.9	5.4	1204mm	728.7	139.8	5.4	1204mm	732.4	138.7
Tile P II												
Drop height H=	1400mm	1425mm	956.1	161.0	5.3	1413mm	956.5	159.7	5.6	1395mm	934.6	159.9

TYPE 75mm

	Nominal height	Test points P1 Effective drop height	HIC	a_{max} [g]	Δt_{HIC} [msec]	P2 Effective drop height	HIC	a_{max} [g]	Δt_{HIC} [msec]	P3 Effective drop height	HIC	a_{max} [g]
Tile P I												
Drop height H1=	1800mm	1821mm	818.3	132.7	7.4	1770mm	815.5	130.0	7.9	1825mm	807.6	129.9
Drop height H2=	2000mm	2026mm	1026.0	149.2	7.4	1990mm	1037.8	148.1	6.8	2010mm	1022.1	147.9
Drop height H3=	2200mm	2224mm	1197.9	162.2	6.5	2228mm	1266.3	164.9	6.6	2212mm	1231.8	163.7
Drop height H4=	2400mm	2414mm	1424.9	177.9	6.8	2420mm	1450.7	176.5	6.2	2432mm	1384.3	174.3
Drop height H5=	1800mm	1811mm	832.5	133.4	7.9	1815mm	865.4	135.2	7.7	1776mm	820.7	132.0
Tile P II												
Drop height H=	2000mm	1996mm	955.9	141.4	7.1	2020mm	943.0	141.1	7.0	1990mm	959.0	143.8

TYPE 100mm

	Nominal height	Test points P1 Effective drop height	HIC	a_{max} [g]	Δt_{HIC} [msec]	P2 Effective drop height	HIC	a_{max} [g]	Δt_{HIC} [msec]	P3 Effective drop height	HIC	a_{max} [g]
Tile P I												
Drop height H1=	2500mm	2502mm	893.4	123.9	9.9	2518mm	871.2	123.4	9.3	2514mm	856.0	120.6
Drop height H2=	2700mm	2679mm	954.6	128.2	9.6	2675mm	968.8	131.4	9.1	2724mm	1020.8	133.5
Drop height H3=	2900mm	2888mm	1104.5	137.7	9.5	2885mm	1071.2	137.7	9.3	2910mm	1113.3	137.8
Drop height H4=	3100mm	3133mm	1260.6	148.2	9.2	3141mm	1201.2	145.5	8.9	3050mm	1192.0	143.3
Drop height H5=	2500mm	2491mm	873.5	121.7	9.7	2510mm	858.7	122.0	9.7	2509mm	884.7	122.7
Tile P II												
Drop height H=	2700mm	2680mm	964.2	126.2	9.9	2692mm	945.0	125.6	9.8	2698mm	946.2	127.0

Remarks:
ΔtHIC [msec] ... t_2-t_1 for HIC-calculation
Each drop test for tiles I shall start at each test point with the lowest drop height and shall be continued immediately with the next drop height. The last drop height shall be the same as the first drop height. The time difference between each drop test shall be lower than 2 min.
All time/acceleration curves to be recorded.

A. Deviations of HIC max./ HIC min. over the surface Tile PI : Only ca.-values possible (for guided headform the calculated drop heights are not always exactly the same!)

Type 50mm: max. ca. 7% (all drop heights) → repeated test H1/H5: max. ca. +8%
Type 75mm: max. ca. 5% (all drop heights) → repeated test H1/H5: max. ca. +2%
Type 100mm: max. ca. 6% (all drop heights) → repeated test H1/H5: ca. -2% to + 3%

Note: In the repeated test the minus means a lower HIC-value, the plus means a higher HIC-value as received in the drop test before.

B. Comparison of HIC-values Tile PI / Tile PII for drop height H2:

Type 50mm: ca. --3%

Note: The minus means a lower HIC-value, the plus means a higher HIC-value in tile PII than the HIC-values measured in the same points of tile PI..

Type 75mm: max. ca. – 10%
Type 100mm: ca.-- 7% to + 1%

Results Lab. No.2

Tempterature at the test: 24 degrees celsius
rel. humidity at the test: 54%

RESULTS:

TYPE 50mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Tile P I										
Drop height H1=	1200mm	707	141,6	5,6	708	140,1	5,7	705	136,5	5,9
Drop height H2=	1400mm	980	169,6	5	951	140,0	5,3	936	158,6	5,5
Drop height H3=	1600mm	1323	201,0	4,4	1189	183,1	5	1215	183,9	5
Drop height H4=	1800mm	1611	222,9	4,1	1466	204,2	4,7	1538	209,1	4,6
Drop height H5=	1200mm	727	145,1	5,4	711	141,3	5,7	727	140,4	5,8
Tile P II										
Drop height H=	1400mm	939	161,4	5,3	949	160,6	5,4	949	159,8	5,5

TYPE 75mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Tile P I										
Drop height H1=	1800mm	774	129,2	7,6	808	131,4	7,5	785	130,3	7,6
Drop height H2=	2000mm	953	144,9	7,1	956	144,0	7,1	965	145,7	7,1
Drop height H3=	2200mm	1119	157,6	6,7	1131	157,0	6,9	1083	153,0	7
Drop height H4=	2400mm	1304	170,4	6,5	1319	169,5	6,7	1327	171,6	6,5
Drop height H5=	1800mm	785	131,1	7,5	816	132,9	7,5	773	129,7	7,5
Tile P II										
Drop height H=	2000mm	929	140,5	7,3	936	142,4	7,2	925	142,1	7,2

TYPE 100mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Tile P I										
Drop height H1=	2500mm	803	116,9	10,8	805	117,4	10,6	810	117,5	10,7
Drop height H2=	2700mm	950	128,9	10,1	906	125,8	10,1	925	126,6	10,2
Drop height H3=	2900mm	1045	135,2	9,8	1026	134,3	9,8	1025	132,7	10,1
Drop height H4=	3100mm	1142	139,5	9,7	1148	141,5	9,4	1138	140,6	9,7
Drop height H5=	2500mm	914	119,0	10,4	817	119,1	10,3	817	118,3	10,5
Tile P II										
Drop height H=	2700mm	914	123,1	10,7	917	123,5	10,5	892	123,1	10,4

Remarks:
ΔtHIC [msec] ... t_2-t_1 for HIC-calculation
Each drop test for tiles I shall start at each test point with the lowest drop height and shall be continued immediately with the next drop height. The last drop height shall be the same as the first drop height. The time difference between each drop test shall be lower than 2 min.
All time/acceleration curves to be recorded.

A. Deviations of HIC max./ HIC min. over the surface Tile PI :

Type 50mm: max. 11% (all drop heights) → repeated test H1/H5: max. +3%
Type 75mm: max. 4% (all drop heights) → repeated test H1/H5: min. -2% to max. + 1%
Type 100mm: max. 5% (all drop heights) → repeated test H1/H5: min. 0% to max. +14%

Note: In the repeated test the minus means a lower HIC-value, the plus means a higher HIC-value as received in the drop test before.

B. Comparison of HIC-values Tile PI / Tile PII for drop height H2:

Type 50mm: – 4% to +1%
Type 75mm: max. -4%
Type 100mm: --4% to +1%

Note: The minus means a lower HIC-value, the plus means a higher HIC-value in tile PII than the HIC-values measured in the same points of tile PI.

Results Lab. No. 3

Temperature at the test: 23°C
rel. humidity at the test: 61%

RESULTS:

TYPE 50mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Tile P I										
Drop height H1=	1200mm	608,6	137,4	5	588,1	132,6	5,2	592,5	130,5	5,2
Drop height H2=	1400mm	838,9	163,7	4,4	787,3	155	4,6	790,8	152,6	4,8
Drop height H3=	1600mm	1063	185	4	1019,7	177,7	4,4	1015,8	174,5	4,4
Drop height H4=	1800mm	1387,7	214,9	3,8	1291,3	201,1	4	1296,8	198,1	4
Drop height H5=	1200mm	595,1	134,6	5	571,9	129,8	5,2	588,6	129,6	5,4
Tile P II										
Drop height H=	1400mm	795,5	154	5,4	812,8	155,2	4,6	804,5	154,2	4,8

TYPE 75mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Tile P I										
Drop height H1=	1800mm	613,1	117,9	7,2	674,7	124,2	7	619,9	118,1	7,2
Drop height H2=	2000mm	743,9	130	7	810,3	136,5	6,6	780,6	135	6,6
Drop height H3=	2200mm	936,4	149,1	6	913,3	144,5	6,4	925,2	147,3	6,4
Drop height H4=	2400mm	1082,4	160,6	5,6	1085,3	159,2	6	1084,4	160,6	6
Drop height H5=	1800mm	627,9	120,1	7	649,4	121,5	7,2	647,6	122,4	7
Tile P II										
Drop height H=	2000mm	764,4	130,5	6,6	751,3	129,8	6,6	737,7	129,6	6,8

TYPE 100mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Tile P I										
Drop height H1=	2500mm	618,5	106	10,6	583,5	102,3	10,6	618,8	106,5	10
Drop height H2=	2700mm	687,6	110,6	10,2	690,1	112,9	9,8	703,5	114,2	10
Drop height H3=	2900mm	774,6	117,7	10	778,5	120,3	9,6	776,3	119,9	10,2
Drop height H4=	3100mm	853,6	124,4	9,6	865,9	127,4	9,2	855	125,5	9,2
Drop height H5=	2500mm	603,3	103,6	10,8	602,8	104,8	10,2	613,4	106	10
Tile P II										
Drop height H=	2700mm	653,5	105,9	10,6	679,8	110,6	10,2	636,7	105,9	10,4

Remarks:
ΔtHIC [msec] ... t_2-t_1 for HIC-calculation
Each drop test for tiles I shall start at each test point with the lowest drop height and shall be continued immediately with the next drop height. The last drop height shall be the same as the first drop height. The time difference between each drop test shall be lower than 2 min.
All time/acceleration curves to be recorded.

A. Deviations of HIC max./ HIC min. over the surface Tile PI :

Type 50mm: max. 8% (all drop heights) → repeated test H1/H5: max. --3%
Type 75mm: max. 10% (all drop heights) → repeated test H1/H5: -4% to + 5%
Type 100mm: max. 6% (all drop heights) → repeated test H1/H5: -3% to + 3%

Note: In the repeated test the minus means a lower HIC-value, the plus means a higher HIC-value as received in the drop test before.

B. Comparison of HIC-values Tile PI / Tile PII for drop height H2:

Type 50mm: – 5% to +3%
Type 75mm: – 8% to +3%
Type 100mm: -- 1% to -10%

Note: The minus means a lower HIC-value, the plus means a higher HIC-value in tile PII than the HIC-values measured in the same points of tile PI.

Results Lab. No. 4 – TEST 1 (Initial Test for Round Robin)

Temperatur: 23°C
rel. Feuchte: 41%

ERGEBNISSE:

TYPE 50mm

		PRÜFPUNKTE P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Platte P I										
Fallhöhe H1=	1200mm	656	139		637	134		653	135	
Fallhöhe H2=	1400mm	939	169		924	166		911	163	
Fallhöhe H3=	1600mm	1255	200		1201	190		1166	185	
Fallhöhe H4=	1800mm	1589	228		1536	220		1454	208	
Platte P II										
Fallhöhe H=	1400mm	856	156		856	154,5		893	158,2	

TYPE 75mm

		PRÜFPUNKTE P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Platte P I										
Fallhöhe H1=	1800mm	733	128		753	128		729	127	
Fallhöhe H2=	2000mm	925	145		964	148		932	146	
Fallhöhe H3=	2200mm	1104	160		1144	162		1103	159	
Fallhöhe H4=	2400mm	1297	174		1351	177		1262	170	
Platte P II										
Fallhöhe H=	2000mm	894	140		855	136,2		858	137,2	

TYPE 100mm

		PRÜFPUNKTE P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Platte P I										
Fallhöhe H1=	2500mm	804	118		768	116		795	118	
Fallhöhe H2=	2700mm	936	129		908	129		924	130	
Fallhöhe H3=	2900mm	1044	138		1015	137		1035	138	
Fallhöhe H4=	3100mm	1158	145		1136	145		1152	146	
Platte P II										
Fallhöhe H=	2700mm	870	122		855	120		811	118	

Erläuterungen:
ΔtHIC [msec] ... t_2-t_1 bei HIC
Die Fallversuche bei den Platten I sollen bei jedem Prüfpunkt bei der kleinsten Höhe beginnen und unmittelbar mit der nächsten Höhe fortgesetzt werden.
Die Zeitdifferenz zwischen den einzelnen Fallversuchen bei ansteigenden Höhen eines Prüfpunktes soll <2min sein.

A. Deviations of HIC max./ HIC min. over the surface Tile PI :

Type 50mm: min. 0% to max. 9% (all drop heights) → test completely repeated at the end of round robin
Type 75mm: min. 0% to max. 7% (all drop heights) → test completely repeated at the end of round robin
Type 100mm: min. 2% to max. 5% (all drop heights) → test completely repeated at the end of round robin

Note: The complete comparison between test 1(initial test of round robin) and test 2 (end test of round robin) is given in the results of Lab. No. 4- TEST 2.

B. Comparison of HIC-values Tile PI / Tile PII for drop height H2:

Type 50mm: – 2% to -10%
Type 75mm: – 3% to -12%
Type 100mm: -- 6% to -14%

Note: The minus means a lower HIC-value, the plus means a higher HIC-value in tile PII than the HIC-values measured in the same points of tile PI.

Results Lab. No.4 – TEST 2 (End Test after Round Robin)

INSTITUT:

Name: TÜV Österreich
Anschrift: 1230 Wien; Deutschstraße 10
Probeneingang am: 15.1.2007
Prüfung am: 16.1.2007
Probenausgang am:
Prüfer: Gu/Kai
Temperatur: 21°C
rel. Feuchte: 43%

ERGEBNISSE:

TYPE 50mm

		PRÜFPUNKTE P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Platte P I										
Fallhöhe H1=	1200mm	660	139		648	136		662	136	
Fallhöhe H2=	1400mm	920	168		893	163		907	162	
Fallhöhe H3=	1600mm	1196	194		1162	187		1168	184	
Fallhöhe H4=	1800mm	1514	221		1460	212		1452	207	
Platte P II										
Fallhöhe H=	1400mm	864	157		901	160		898	159	

TYPE 75mm

		PRÜFPUNKTE P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Platte P I										
Fallhöhe H1=	1800mm	738	128		778	131		755	129	
Fallhöhe H2=	2000mm	916	144		965	148		927	145	
Fallhöhe H3=	2200mm	1024	158		1133	160		1105	159	
Fallhöhe H4=	2400mm	1277	172		1322	175		1292	174	
Platte P II										
Fallhöhe H=	2000mm	931	144		908	142		892	141	

TYPE 100mm

		PRÜFPUNKTE P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Platte P I										
Fallhöhe H1=	2500mm	805	119		784	118		792	119	
Fallhöhe H2=	2700mm	919	129		897	128		911	128	
Fallhöhe H3=	2900mm	1029	136		1010	136		1033	137	
Fallhöhe H4=	3100mm	1141	143		1133	145		1147	145	
Platte P II										
Fallhöhe H=	2700mm	893	125		905	126		878	125	

Erläuterungen:
ΔtHIC [msec] ... t_2-t_1 bei HIC
Die Fallversuche bei den Platten I sollen bei jedem Prüfpunkt bei der kleinsten Höhe beginnen und unmittelbar mit der nächsten Höhe fortgesetzt werden.
Die Zeitdifferenz zwischen den einzelnen Fallversuchen bei ansteigenden Höhen eines Prüfpunktes soll <2min sein.

A. Deviations of HIC max./ HIC min. over the surface Tile PI → Comparison with TEST 1

Type 50mm: min. 0% to max. 4% (all drop heights) → difference to test 1 within +2/ -5%
Type 75mm: min. 4% to max. 11% (all drop heights) → difference to test 1 within +4/ -2% (1 exception -8%)
Type 100mm: min. 0% to max. 3% (all drop heights) → difference to test 1 within +2/ -2%

B. Comparison of HIC-values Tile PI / Tile PII for drop height H2:

Type 50mm: – 1% to - 6%
Type 75mm: – 6% to + 2%
Type 100mm: -- 4% to + 1%

Note: The minus means a lower HIC-value, the plus means a higher HIC-value in tile PII than the HIC-values measured in the same points of tile PI.

Results Lab. No. 5

Tempterature at the test:	21,00
rel. humidity at the test:	60,00

RESULTS:

TYPE 50mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Tile P I										
Drop height H1=	1200mm	685	143	2,5	682	142	2,6	703	142	2,7
Drop height H2=	1400mm	918	168	2,3	915	166	2,4	921	164	2,4
Drop height H3=	1600mm	1198	194	2,1	1181	191	2,2	1187	187	2,3
Drop height H4=	1800mm	1530	223	1,9	1520	220	1,9	1486	210	2,1
Drop height H5=	1200mm	683	143	2,5	686	142	2,6	700	141	2,7
Tile P II										
Drop height H=	1400mm	919	165	2,4	937	165	2,4	949	165	2,5

TYPE 75mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Tile P I										
Drop height H1=	1800mm	772	133	3,4	804	135	3,4	764	132	3,5
Drop height H2=	2000mm	924	146	3,2	962	149	3,2	930	146	3,3
Drop height H3=	2200mm	1102	160	3,1	1124	160	3,1	1104	160	3,2
Drop height H4=	2400mm	1286	174	2,9	1320	175	3	1292	174	2,9
Drop height H5=	1800mm	765	132	3,4	790	132	3,3	773	132	3,5
Tile P II										
Drop height H=	2000mm	950	146	3,3	941	146	3,3	922	146	3,3

TYPE 100mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Tile P I										
Drop height H1=	2500mm	806	120	4,5	811	122	4,5	808	120	4,5
Drop height H2=	2700mm	911	127	4,3	917	129	4,3	915	128	4,4
Drop height H3=	2900mm	1022	136	4,2	1035	138	4,2	1025	137	4,3
Drop height H4=	3100mm	1128	142	4,1	1140	146	4	1153	146	4,2
Drop height H5=	2500mm	798	119	4,5	807	121	4,5	812	121	4,5
Tile P II										
Drop height H=	2700mm	890	124	4,6	906	126	4,5	866	124	4,5

Remarks:
ΔtHIC [msec] ... t_2-t_1 for HIC-calculation
Each drop test for tiles I shall start at each test point with the lowest drop height and shall be continued immediately with the next drop height. The last drop height shall be the same as the first drop height. The time difference between each drop test shall be lower than 2 min.
All time/acceleration curves to be recorded.

A. Deviations of HIC max./ HIC min. over the surface Tile PI :

Type 50mm: min. 1% to max. 3% (all drop heights) → repeated test H1/H5: max. + 1%
Type 75mm: min. 2% to max. 5% (all drop heights) → repeated test H1/H5: -2% to + 1%
Type 100mm: min. 1% to max. 2% (all drop heights) → repeated test H1/H5: -1% to + 0%

Note: In the repeated test the minus means a lower HIC-value, the plus means a higher HIC-value as received in the drop test before.

B. Comparison of HIC-values Tile PI / Tile PII for drop height H2:

Type 50mm: + 0% to +1%
Type 75mm: – 2% to +1%
Type 100mm: -- 1% to +0%

Note: The minus means a lower HIC-value, the plus means a higher HIC-value in tile PII than the HIC-values measured in the same points of tile PI.

Results Lab. No. 6

Tempterature at the test: 21,00
rel. humidity at the test: 60,00

RESULTS:

TYPE 50mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Tile P I										
Drop height H1=	1200mm	657	143	2,5	669	142	2,6	672	140	2,6
Drop height H2=	1400mm	908	170	2,3	903	167	2,3	900	163	2,5
Drop height H3=	1600mm	1196	194	2,1	1182	191	2,2	1142	184	2,3
Drop height H4=	1800mm	1504	222	1,9	1464	216	2	1419	208	2,1
Drop height H5=	1200mm	665	142	2,5	663	140	2,6	670	138	2,7
Tile P II										
Drop height H=	1400mm	906	165	2,4	922	164	2,4	925	163	2,5

TYPE 75mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Tile P I										
Drop height H1=	1800mm	735	130	3,4	765	132	3,5	740	130	3,5
Drop height H2=	2000mm	896	144	3,3	912	144	3,3	888	143	3,3
Drop height H3=	2200mm	1059	157	3,1	1074	157	3,1	1038	155	3,1
Drop height H4=	2400mm	1222	171	3	1253	171	3	1217	169	3
Drop height H5=	1800mm	733	130	3,5	760	131	3,5	760	131	3,5
Tile P II										
Drop height H=	2000mm	919	145	3,2	903	144	3,2	856	141	3,3

TYPE 100mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Tile P I										
Drop height H1=	2500mm	779	118	4,4	743	117	4,5	744	117	4,4
Drop height H2=	2700mm	892	127	4,2	848	126	4,3	846	125	4,3
Drop height H3=	2900mm	988	134	4,2	957	134	4,2	943	132	4,2
Drop height H4=	3100mm	1071	140	4,1	1038	140	4,1	1030	139	4,1
Drop height H5=	2500mm	772	117	4,5	733	117	4,5	743	116	4,5
Tile P II										
Drop height H=	2700mm	841	122	4,6	864	124	4,5	807	121	4,6

Remarks:
ΔtHIC [msec] ... t_2-t_1 for HIC-calculation
Each drop test for tiles I shall start at each test point with the lowest drop height and shall be continued immediately with the next drop height. The last drop height shall be the same as the first drop height. The time difference between each drop test shall be lower than 2 min.
All time/acceleration curves to be recorded.

A. Deviations of HIC max./ HIC min. over the surface Tile PI :

Type 50mm: min. 1% to max. 6% (all drop heights) → repeated test H1/H5: -1% to + 2%
Type 75mm: min. 3% to max. 4% (all drop heights) → repeated test H1/H5: -0% to + 3%
Type 100mm: min. 4% to max. 5% (all drop heights) → repeated test H1/H5: -1% to -0 %

Note: In the repeated test the minus means a lower HIC-value, the plus means a higher HIC-value as received in the drop test before.

B. Comparison of HIC-values Tile PI / Tile PII for drop height H2:

Type 50mm: -0% to +3%
Type 75mm: – 4% to +3%
Type 100mm: -- 6% to +2%

Note: The minus means a lower HIC-value, the plus means a higher HIC-value in tile PII than the HIC-values measured in the same points of tile PI.

Results Lab. No. 7

Tempterature at the test: 24,2 °C
rel. humidity at the test: 55,7 %

RESULTS:

TYPE 50mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]*	HIC	a_{max} [g]	Δt_{HIC} [msec]*	HIC	a_{max} [g]	Δt_{HIC} [msec]*
Tile P I										
Drop height H1=	1200mm	687	147		656	139		698	142	
Drop height H2=	1400mm	963	176		906	166		924	166	
Drop height H3=	1600mm	1257	200		1191	193		1208	191	
Drop height H4=	1800mm	1616	233		1567	222		1515	215	
Drop height H5=	1200mm	694	147		682	143		692	142	
Tile P II										
Drop height H=	1400mm	863	160		900	162		888	160	

TYPE 75mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]*	HIC	a_{max} [g]	Δt_{HIC} [msec]*	HIC	a_{max} [g]	Δt_{HIC} [msec]*
Tile P I										
Drop height H1=	1800mm	719	130		763	133		747	132	
Drop height H2=	2000mm	921	146		909	145		930	148	
Drop height H3=	2200mm	1102	162		1055	157		1087	160	
Drop height H4=	2400mm	1280	175		1287	174		1303	176	
Drop height H5=	1800mm	775	134		773	133		761	133	
Tile P II										
Drop height H=	2000mm	898	144		889	142		920	146	

TYPE 100mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]*	HIC	a_{max} [g]	Δt_{HIC} [msec]*	HIC	a_{max} [g]	Δt_{HIC} [msec]*
Tile P I										
Drop height H1=	2500mm	765	118		758	119		742	117	
Drop height H2=	2700mm	886	129		873	127		867	127	
Drop height H3=	2900mm	1012	138		978	136		1007	137	
Drop height H4=	3100mm	1085	143		1125	145		1086	143	
Drop height H5=	2500mm	771	120		773	120		802	121	
Tile P II										
Drop height H=	2700mm	850	122		877	126		805	120	

Remarks:
ΔtHIC [msec] ... t_2-t_1 for HIC-calculation
Each drop test for tiles I shall start at each test point with the lowest drop height and shall be continued immediately with the next drop height. The last drop height shall be the same as the first drop height. The time difference between each drop test shall be lower than 2 min.
All time/acceleration curves to be recorded.

A. Deviations of HIC max./ HIC min. over the surface Tile PI :

Type 50mm: max. 7% (all drop heights) → repeated test H1/H5: -1% to +4%
Type 75mm: max. 6% (all drop heights) → repeated test H1/H5: max. + 8%
Type 100mm: max. 4% (all drop heights) → repeated test H1/H5: max. + 8%

Note: In the repeated test the minus means a lower HIC-value, the plus means a higher HIC-value as received in the drop test before.

B. Comparison of HIC-values Tile PI / Tile PII for drop height H2:

Type 50mm: max. -11%
Type 75mm: max. - 3%
Type 100mm: -- 8% to +1%

Note: The minus means a lower HIC-value, the plus means a higher HIC-value in tile PII than the HIC-values measured in the same points of tile PI.

Results Lab. No. 8

Tempterature at the test: 23°C
rel. humidity at the test: 52% HR

RESULTS:

TYPE 50mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Tile P I										
Drop height H1=	1200mm	690	143	5,3	678	139	5,4	685	140	5,4
Drop height H2=	1400mm	945	159	5	930	168	4,9	946	167	4,9
Drop height H3=	1600mm	1280	208	4,2	2159	196	4,3	1246	192	4,3
Drop height H4=	1800mm *	*	*	*		*	*		*	
Drop height H5=	1200mm	694	164	5,3	683	140	5,4	684	141	5,3
Tile P II										
Drop height H=	1400mm	941	164	4,9	925	166	5	942	162	5

TYPE 75mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Tile P I										
Drop height H1=	1800mm	747	130	7,1	763	131	7,2	764	131	7,1
Drop height H2=	2000mm	901	144	6,9	984	149	6,9	932	146	6,9
Drop height H3=	2200mm	1062	163	6,7	1070	162	6,7	1115	160	6,7
Drop height H4=	2400mm	1243	184	6,6	1320	182	6,6	1340	176	6,5
Drop height H5=	1800mm	760	131	7,1	768	132	7,2	760	130	7,1
Tile P II										
Drop height H=	2000mm	968	145	6,9	942	146	6,8	934	144	6,8

TYPE 100mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Tile P I										
Drop height H1=	2500mm	798	119	9,6	782	118	10	791	118	9,7
Drop height H2=	2700mm	904	128	9,5	882	125	9,8	898	127	9,6
Drop height H3=	2900mm	1010	135	9,4	990	134	9,2	1008	134	9,2
Drop height H4=	3100mm	1147	143	9,3	1102	144	8,9	1126	143	9
Drop height H5=	2500mm	799	119	9,6	788	119	9,9	794	119	9,7
Tile P II										
Drop height H=	2700mm	9,8	126	9,8	894	125	10	882	123	9,9

Remarks:
ΔtHIC [msec] ... t_2-t_1 for HIC-calculation
Each drop test for tiles I shall start at each test point with the lowest drop height and shall be continued immediately with the next drop height. The last drop height shall be the same as the first drop height. The time difference between each drop test shall be lower than 2 min.
All time/acceleration curves to be recorded.

A. Deviations of HIC max./ HIC min. over the surface Tile PI :

Type 50mm: max. 3% (all drop heights) → repeated test H1/H5: max. +1%
Type 75mm: max. 9% (all drop heights) → repeated test H1/H5: max. +2%
Type 100mm: max. 4% (all drop heights) → repeated test H1/H5: max. +1%

Note: In the repeated test the minus means a lower HIC-value, the plus means a higher HIC-value as received in the drop test before.

B. Comparison of HIC-values Tile PI / Tile PII for drop height H2:

Type 50mm: max. -1%
Type 75mm: – 7% to +4%
Type 100mm: -- 2% to +1%

Note: The minus means a lower HIC-value, the plus means a higher HIC-value in tile PII than the HIC-values measured in the same points of tile PI.

Results Lab. No. 9

Tempterature at the test: 23°C
rel. humidity at the test:

RESULTS:

TYPE 50mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Tile P I										
Drop height H1=	1200mm	626,64	137,2	5,3	599,81	132,2	5,6	613,89	131,3	5,8
Drop height H2=	1400mm	893,18	167,9	4,7	854,98	161,7	4,9	878,09	159,9	5,2
Drop height H3=	1600mm	1174,02	195,9	4,2	1139,52	189,7	4,5	1126	182,9	4,8
Drop height H4=	1800mm	1507,71	224,6	3,9	1462,16	218,6	4,1	1429,76	207,8	4,4
Drop height H5=	1200mm	640,04	139,7	5,3	640,2	137,2	5,5	646,45	135,6	5,7
Tile P II										
Drop height H=	1400mm	829,22	154,0	5,2	845,39	155,8	5,3	826,29	153,7	5,3

TYPE 75mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Tile P I										
Drop height H1=	1800mm	631,57	121,8	7,2	723,56	126,7	7,4	734,86	129,8	7,1
Drop height H2=	2000mm	886,95	143,7	6,9	922,96	145,1	6,7	878,45	143,2	6,8
Drop height H3=	2200mm	1034,68	155,7	6,5	1036,61	154,8	6,6	1067,91	159,2	6,5
Drop height H4=	2400mm	1240,01	174,2	6,0	1248,26	170,6	6,3	1248,41	172,6	6,0
Drop height H5=	1800mm	723,13	128,5	7,2	746,62	129,9	7,3	716,75	128,5	7,3
Tile P II										
Drop height H=	2000mm	877,25	140,2	7,1	843,72	137,6	7,0	845,53	139,1	6,9

TYPE 100mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Tile P I										
Drop height H1=	2500mm	746,60	116,7	9,9	714,90	115,9	9,8	711,34	113,3	10,0
Drop height H2=	2700mm	814,35	123,5	9,6	839,58	125,5	9,1	802,62	121,4	9,9
Drop height H3=	2900mm	964,22	132,1	9,1	895,70	129,9	9,3	889,95	128,4	8,7
Drop height H4=	3100mm	985,87	135,5	9,1	975,21	134,6	9,0	993,95	135,7	8,9
Drop height H5=	2500mm	750,09	118,5	9,8	736,19	117,8	9,8	745,17	116,1	10,0
Tile P II										
Drop height H=	2700mm	809,15	119,4	10,0	844,42	122,7	9,7	768,23	117,6	10,1

Remarks:
ΔtHIC [msec] ... t_2-t_1 for HIC-calculation
Each drop test for tiles I shall start at each test point with the lowest drop height and shall be continued immediately with the next drop height. The last drop height shall be the same as the first drop height. The time difference between each drop test shall be lower than 2 min.
All time/acceleration curves to be recorded.

A. Deviations of HIC max./ HIC min. over the surface Tile PI :

Type 50mm: max. 5% (all drop heights) → repeated test H1/H5: max. + 7%
Type 75mm: max. 16% (all drop heights) → repeated test H1/H5: max. +14%
Type 100mm: max. 8% (all drop heights) → repeated test H1/H5: max. + 5%

Note: In the repeated test the minus means a lower HIC-value, the plus means a higher HIC-value as received in the drop test before.

B. Comparison of HIC-values Tile PI / Tile PII for drop height H2:

Type 50mm: max. -8%
Type 75mm: max. -6%
Type 100mm: - 5% to +0%

Note: The minus means a lower HIC-value, the plus means a higher HIC-value in tile PII than the HIC-values measured in the same points of tile PI.

Results Lab. No. 10

Tempterature at the test: 18,2 °C
rel. humidity at the test: 63%

RESULTS:

TYPE 50mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Tile P I										
Drop height H1=	1200mm	657	141	5,0	664	141	5,0	689	141	5,2
Drop height H2=	1400mm	847	158	4,8	859	160	4,8	908	164	4,8
Drop height H3=	1600mm	1171	190	4,4	1115	185	4,4	1135	182	4,6
Drop height H4=	1800mm	1524	221	3,8	1481	215	4,0	1468	211	4,2
Drop height H5=	1200mm	689	146	5,0	637	138	5,0	662	138	5,4
Tile P II										
Drop height H=	1400mm	879	161	4,8	885	161	4,8	872	161	4,8

TYPE 75mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Tile P I										
Drop height H1=	1800mm	694	127	6,8	724	129	6,8	701	127	7,0
Drop height H2=	2000mm	852	141	6,4	872	143	6,4	870	142	6,4
Drop height H3=	2200mm	1040	157	6,0	1036	153	6,2	1078	159	6,2
Drop height H4=	2400mm	1160	166	5,8	1223	168	6,0	1203	168	5,8
Drop height H5=	1800mm	697	127	6,8	742	131	6,6	657	124	7,0
Tile P II										
Drop height H=	2000mm	948	148	6,2	941	148	6,2	909	147	6,2

TYPE 100mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Tile P I										
Drop height H1=	2500mm	759	119	9,0	737	118	9,0	839	124	9,0
Drop height H2=	2700mm	892	128	8,6	852	127	8,8	853	124	9,4
Drop height H3=	2900mm	1041	138	8,6	998	137	8,4	1022	137	8,6
Drop height H4=	3100mm	1188	145	8,2	1065	143	8,2	1068	141	8,2
Drop height H5=	2500mm	771	119	9,0	887	119	9,2	887	125	9,0
Tile P II										
Drop height H=	2700mm	848	123	9,8	901	126	9,0	811	122	9,0

Remarks:
ΔtHIC [msec] ... t_2-t_1 for HIC-calculation
Each drop test for tiles I shall start at each test point with the lowest drop height and shall be continued immediately with the next drop height. The last drop height shall be the same as the first drop height. The time difference between each drop test shall be lower than 2 min.
All time/acceleration curves to be recorded.

A. Deviations of HIC max./ HIC min. over the surface Tile PI :

Type 50mm: max. 7% (all drop heights) → repeated test H1/H5: - 4% to + 5%
Type 75mm: max. 5% (all drop heights) → repeated test H1/H5: - 7% to + 2%
Type 100mm: max. 14% (all drop heights)→ repeated test H1/H5: -5% to + 6%

Note: In the repeated test the minus means a lower HIC-value, the plus means a higher HIC-value as received in the drop test before.

B. Comparison of HIC-values Tile PI / Tile PII for drop height H2:

Type 50mm: – 4% to +4%
Type 75mm: max. +12%
Type 100mm: -- 5% to +6%

Note: The minus means a lower HIC-value, the plus means a higher HIC-value in tile PII than the HIC-values measured in the same points of tile PI.

Results Lab. No 11

RESULTS:

TYPE 50mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Tile P I										
Drop height H1=	1200mm	645,5	135	5,3	641,9	132,8	5,4	659	133,1	5,4
Drop height H2=	1400mm	772,6	150,8	5	863,1	155	5	869,7	154,1	5,2
Drop height H3=	1600mm	1135,7	183	4,5	1133,2	181,1	4,4	1129,2	176,3	5,2
Drop height H4=	1800mm	1367,8	200,4	5,2	1428,9	205	4	1471,5	204,3	4,4
Drop height H5=	1200mm	654,5	137,1	5,2	662,7	135,7	5,4	694	138	5,4
Tile P II										
Drop height H=	1400mm	895,2	160	4,8	882	155,3	5,6	942,2	161,4	5,6

TYPE 75mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Tile P I										
Drop height H1=	1800mm	755	129,3	7	772,2	129,5	7,2	703,4	124,8	7,3
Drop height H2=	2000mm	887,6	140,2	7	920,1	142,9	6,6	917,9	142,6	6,6
Drop height H3=	2200mm	1028,3	151,9	6,6	1090,8	154,7	6,5	1109,3	158,4	6,3
Drop height H4=	2400mm	1264,5	170,2	6,1	1281,6	169,5	6	1281,7	171,4	6
Drop height H5=	1800mm	764	130,2	7	763,4	129,2	7	763	129,7	7,1
Tile P II										
Drop height H=	2000mm	921,5	142,4	6,7	859,1	136,8	7	900,4	142,3	6,7

TYPE 100mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Tile P I										
Drop height H1=	2500mm	825,5	120,2	9,4	801,5	118,3	9,5	790,5	117,2	9,8
Drop height H2=	2700mm	918,9	126,8	9,4	912,9	127,2	9,1	937,2	129,6	8,9
Drop height H3=	2900mm	1001,9	133,1	9,2	1027,6	135,8	8,9	1031,7	135,7	8,9
Drop height H4=	3100mm	1126,7	141,2	8,8	1124,7	141,9	8,7	1153,4	144	8,6
Drop height H5=	2500mm	806,1	119,3	9,8	807,1	120,1	9,3	801,8	117,9	9,5
Tile P II										
Drop height H=	2700mm	882,1	121,4	9,8	876	121,7	9,6	848,6	120	9,9

Remarks:
ΔtHIC [msec] ... t_2-t_1 for HIC-calculation
Each drop test for tiles I shall start at each test point with the lowest drop height and shall be continued immediately with the next drop height. The last drop height shall be the same as the first drop height. The time difference between each drop test shall be lower than 2 min.
All time/acceleration curves to be recorded.

A. Deviations of HIC max./ HIC min. over the surface Tile PI :

Type 50mm: max. 13% (all drop heights) → repeated test H1/H5: max. + 5%
Type 75mm: max. 10% (all drop heights) → repeated test H1/H5: -1% to + 9%
Type 100mm: max. 4% (all drop heights) → repeated test H1/H5: -2% to + 1%

Note: In the repeated test the minus means a lower HIC-value, the plus means a higher HIC-value as received in the drop test before.

B. Comparison of HIC-values Tile PI / Tile PII for drop height H2:

Type 50mm: max. +16%
Type 75mm: – 7% to + 4%
Type 100mm: max. -10%

Note: The minus means a lower HIC-value, the plus means a higher HIC-value in tile PII than the HIC-values measured in the same points of tile PI.

Results Lab. No. 12

Tempterature at the test: 22,5 C
rel. humidity at the test: 37%

RESULTS:

TYPE 50mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Tile P I										
Drop height H1=	1200mm	367			335			341		
Drop height H2=	1400mm	490			467			478		
Drop height H3=	1600mm	649			610			587		
Drop height H4=	1800mm	830			781			780		
Drop height H5=	1200mm	355			345			343		
Tile P II										
Drop height H=	1400mm	475			487			481		

TYPE 75mm

		Test points P1			P2			P3		
		HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]	HIC	a_{max} [g]	Δt_{HIC} [msec]
Tile P I										
Drop height H1=	1800mm	384			374			377		
Drop height H2=	2000mm	475			453			458		
Drop height H3=	2200mm	542			523			540		
Drop height H4=	2400mm	610			625			608		
Drop height H5=	1800mm	388			381			384		