

APPENDIX C
CONE TEST REPORTS
(Consisting of 136 Pages)

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
 Vehicle Model: 1996 Caravan

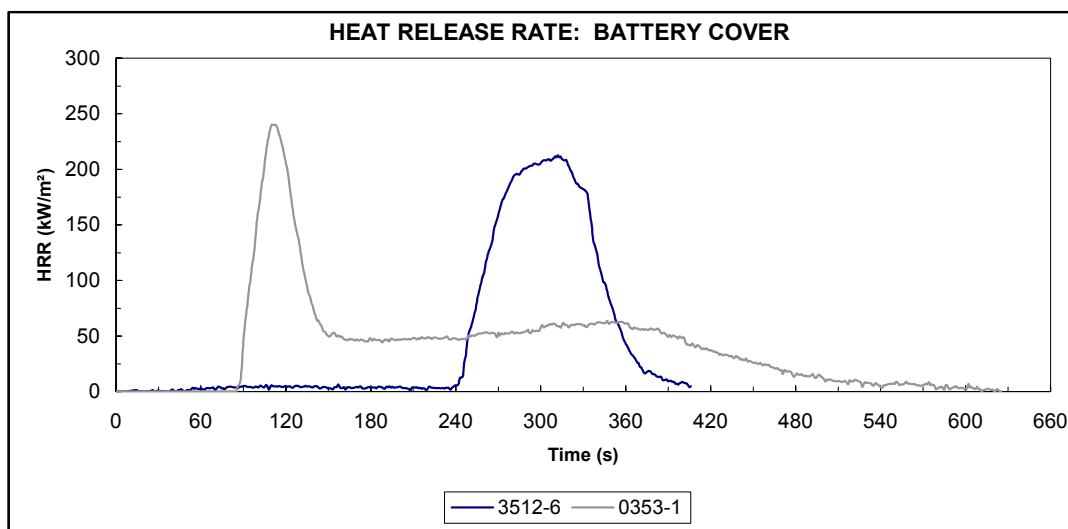
Material ID: Battery Cover
 Heat Flux: 20 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
3512-6	12/17/02	224	135	213	312	17.4	83	97	58	207
0353-1	02/04/03	86	494	240	111	25.1	140	79	70	200
Average		155	314	226	212	21.2	112	88	64	204

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
6.9	1.6	5.0	72.2	6.6	30.9	0.61	48	172	220	305
7.0	0.0	6.7	95.3	1.9	33.2	0.30	28	145	173	192
7.0	0.8	5.8	83.8	4.3	32.1	0.45	38	159	197	248

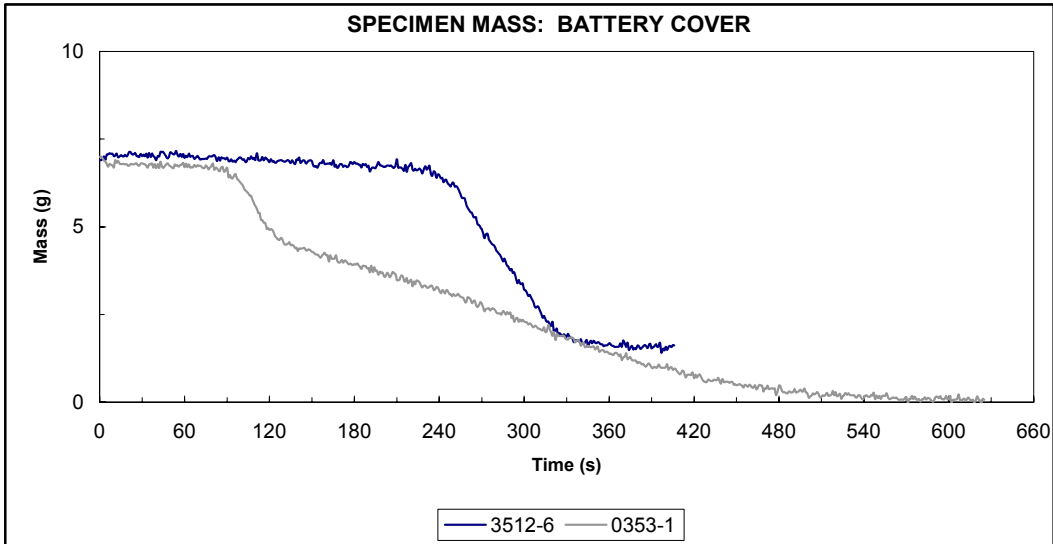
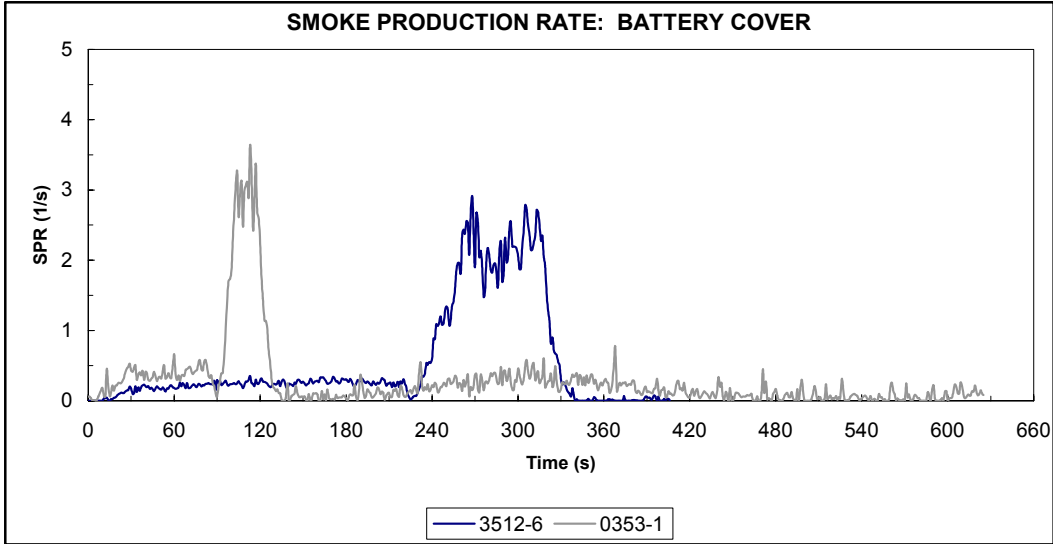


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Battery Cover
Heat Flux: 20 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
 Vehicle Model: 1996 Caravan

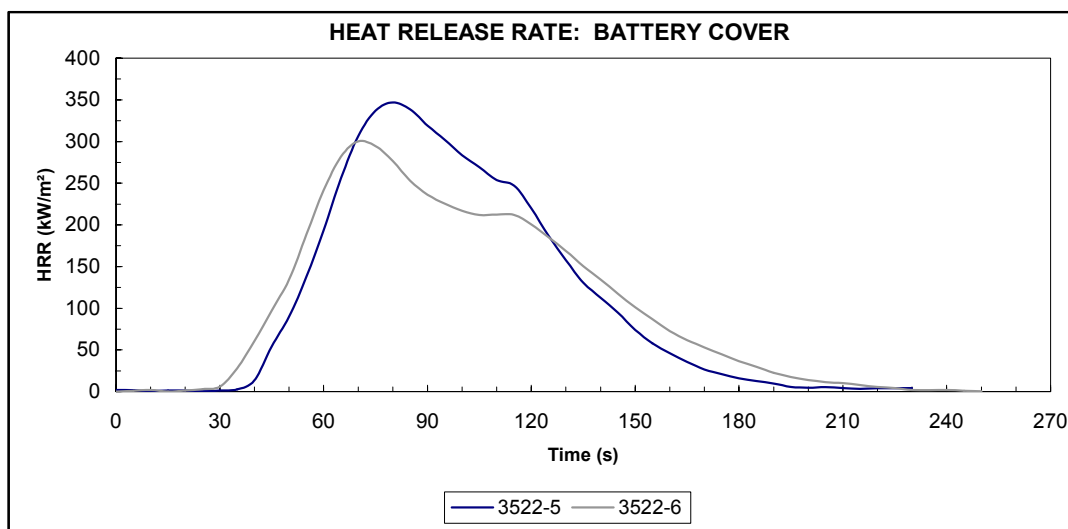
Material ID: Battery Cover
 Heat Flux: 35 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
3522-5	12/18/02	24	138	347	80	24.1	159	134	81	323
3522-6	12/18/02	23	165	300	70	24.7	170	137	82	274
Average		24	152	324	75	24.4	164	136	81	299

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
6.1	0.0	5.9	96.8	8.2	36.0	2.06	14	324	337	484
6.3	0.0	6.0	95.8	6.8	36.1	1.57	6	301	306	440
6.2	0.0	6.0	96.3	7.5	36.1	1.81	10	313	322	462

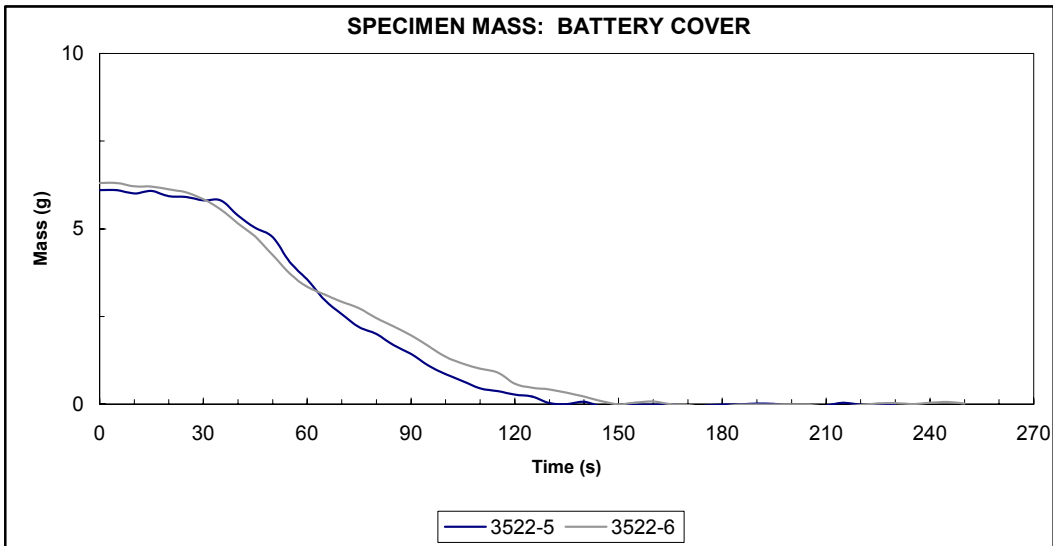
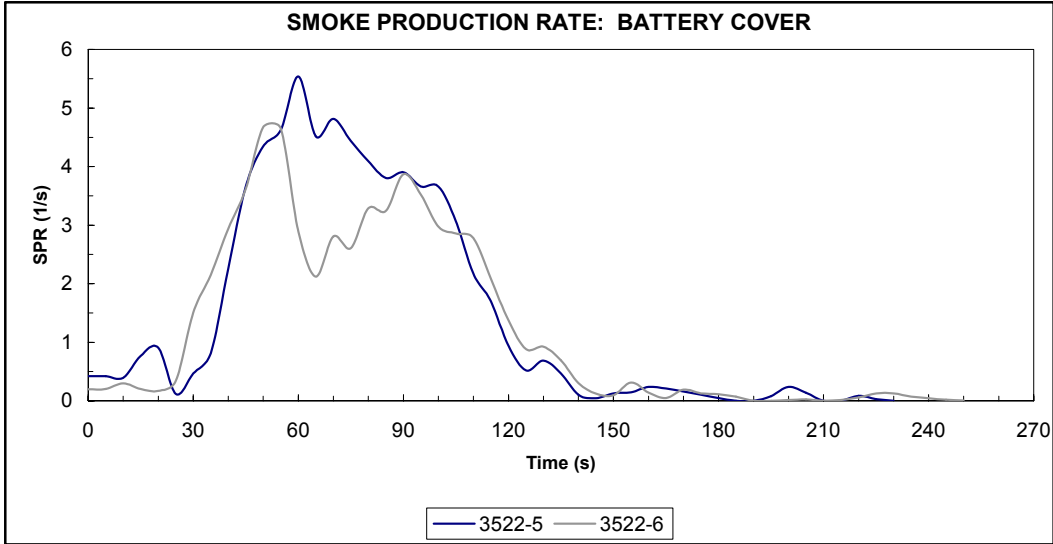


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Battery Cover
Heat Flux: 35 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
 Vehicle Model: 1996 Caravan

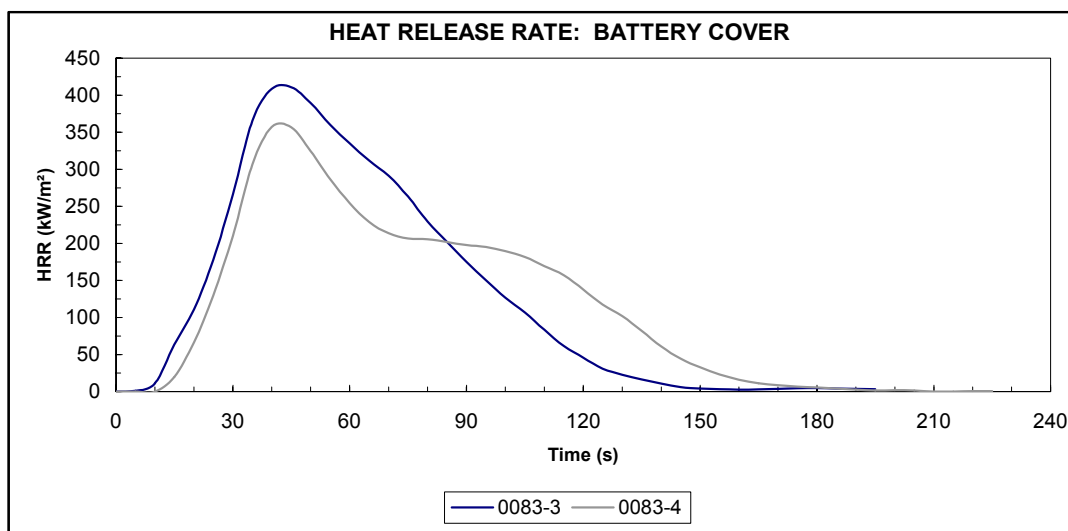
Material ID: Battery Cover
 Heat Flux: 50 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0083-3	01/08/03	7	115	411	45	24.6	255	137	82	374
0083-4	01/08/03	9	144	357	40	25.2	221	141	84	311
Average		8	130	384	43	24.9	238	139	83	342

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
6.1	0.1	6.0	98.2	9.0	36.3	3.18	8	385	393	568
6.4	0.0	6.3	98.2	7.1	35.5	2.41	9	375	383	527
6.3	0.1	6.1	98.2	8.1	35.9	2.79	8	380	388	547

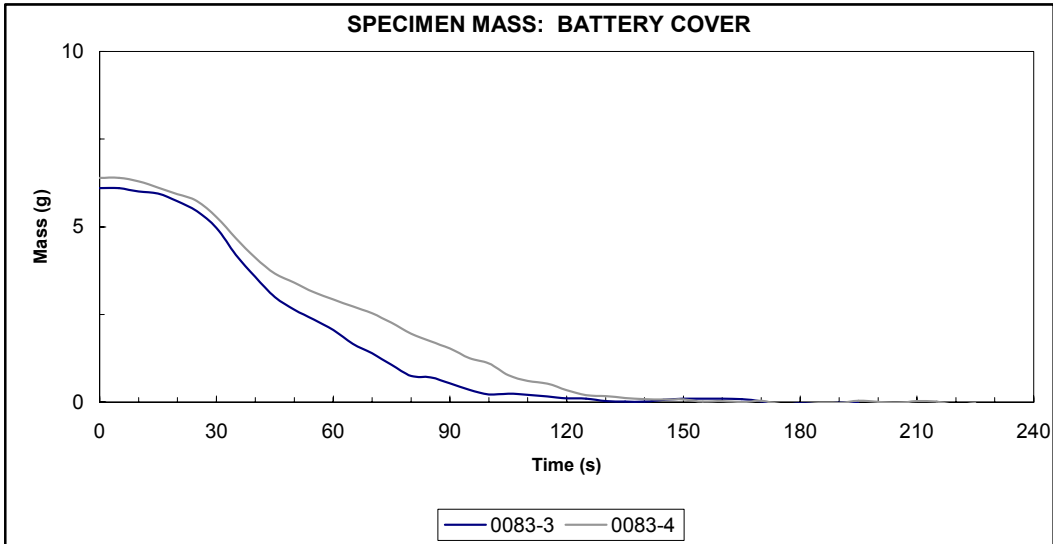
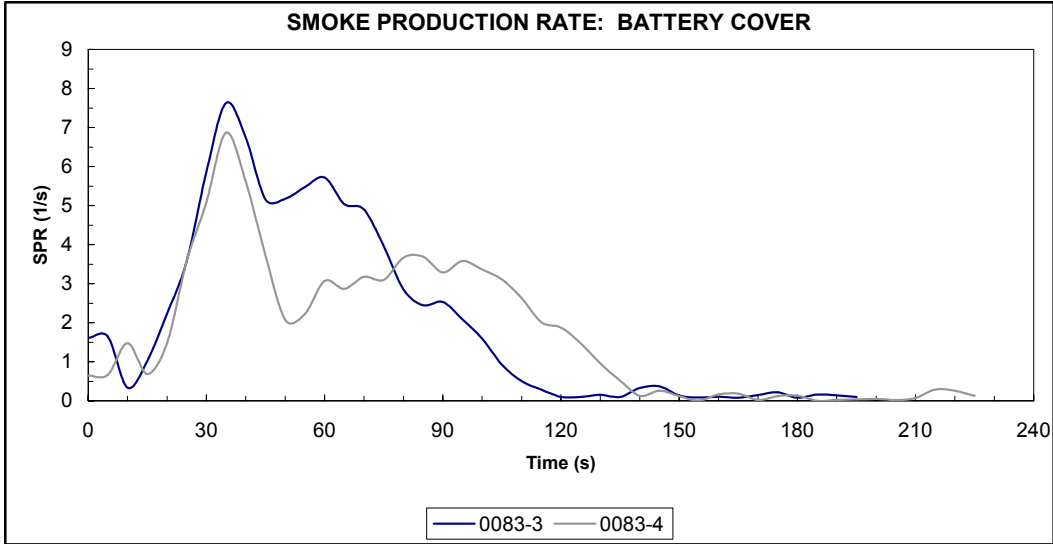


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Battery Cover
Heat Flux: 50 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
 Vehicle Model: 1996 Caravan

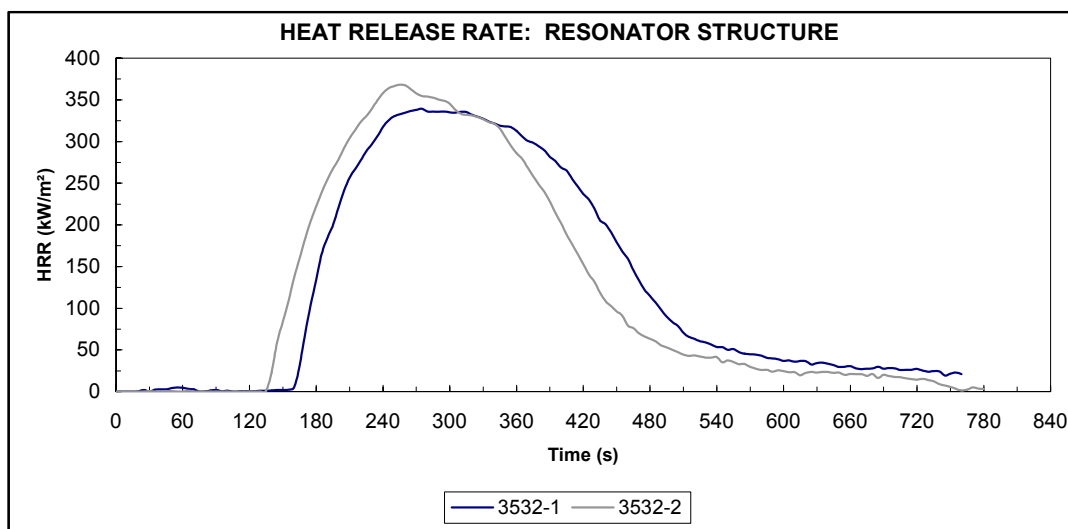
Material ID: Resonator Structure
 Heat Flux: 20 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
3532-1	02/19/02	163	506	339	275	92.6	190	282	270	337
3532-2	02/19/02	135	587	368	255	90.6	151	277	265	364
Average		149	546	354	265	91.6	170	279	268	351

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
31.0	8.5	22.3	71.8	7.7	36.8	2.05	33	1346	1379	534
28.8	6.7	21.9	76.1	8.1	36.6	1.93	26	1374	1400	554
29.9	7.6	22.1	73.9	7.9	36.7	1.99	30	1360	1390	544

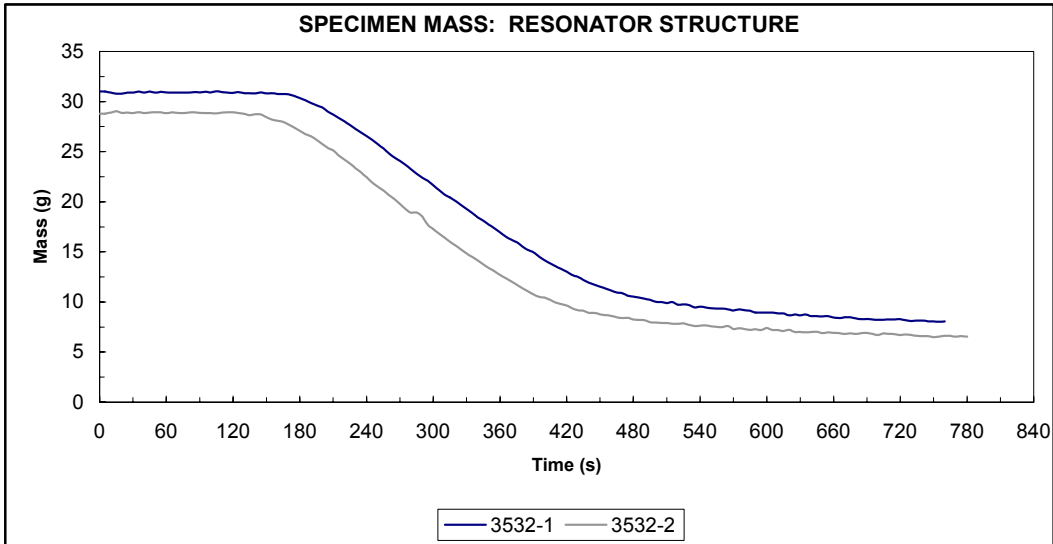
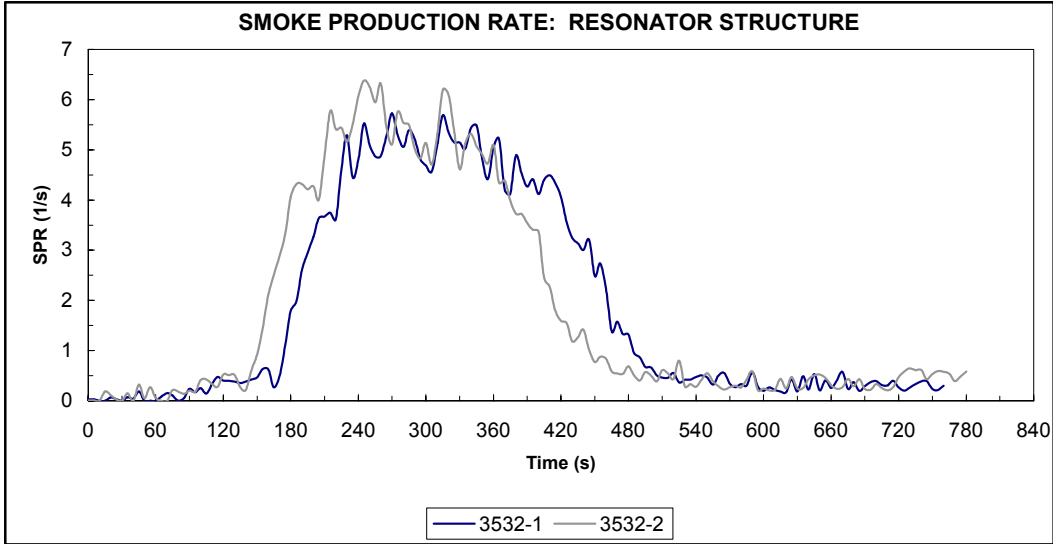


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Resonator Structure
Heat Flux: 20 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
 Vehicle Model: 1996 Caravan

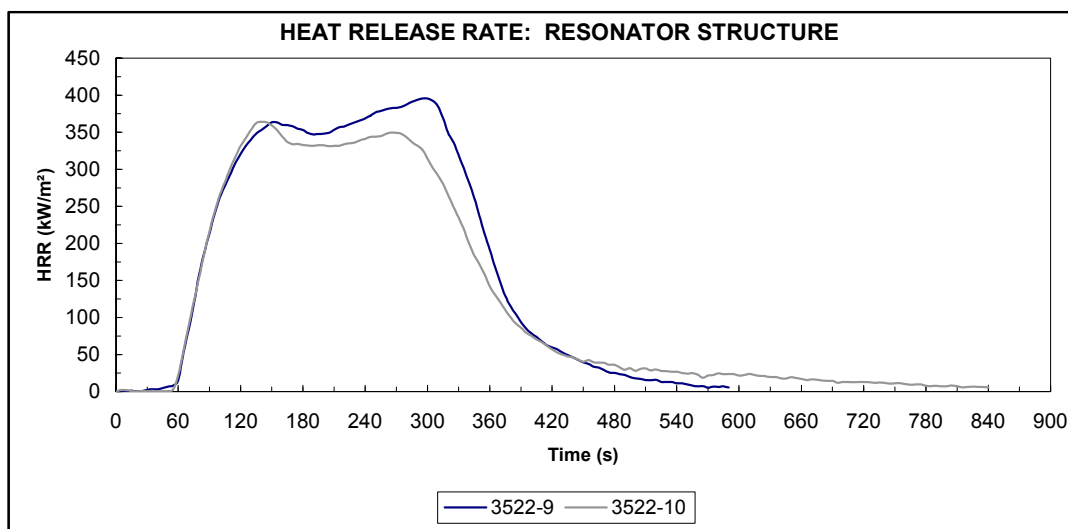
Material ID: Resonator Structure
 Heat Flux: 35 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
3522-9	12/18/02	44	480	396	295	105.6	124	272	309	393
3522-10	12/18/02	43	721	364	140	101.2	125	266	283	359
Average		44	600	380	218	103.4	124	269	296	376

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
35.2	8.1	26.9	76.5	10.4	34.7	2.93	5	1549	1553	508
33.8	7.1	26.7	79.1	8.3	33.5	1.95	8	1494	1502	494
34.5	7.6	26.8	77.8	9.4	34.1	2.44	6	1522	1528	501

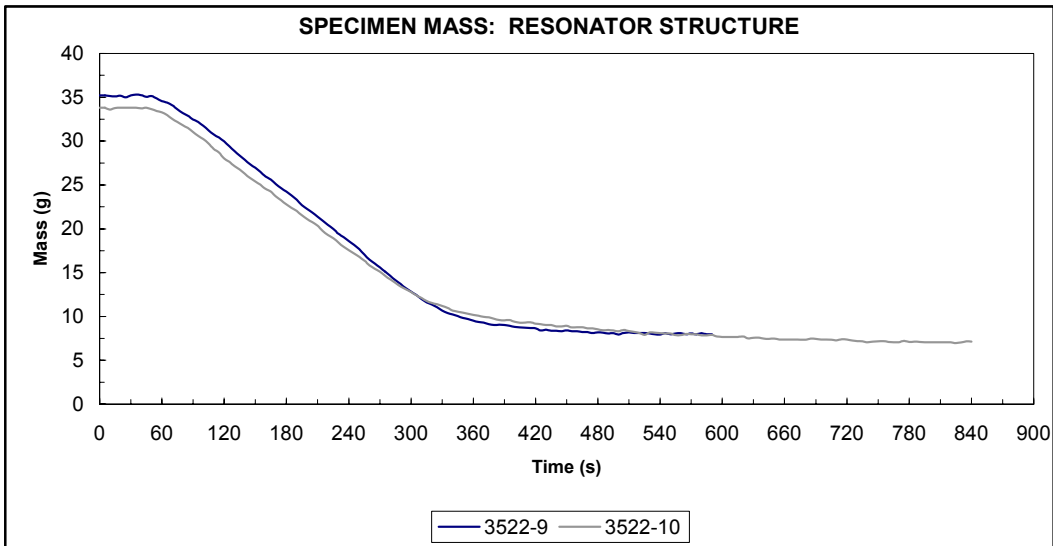
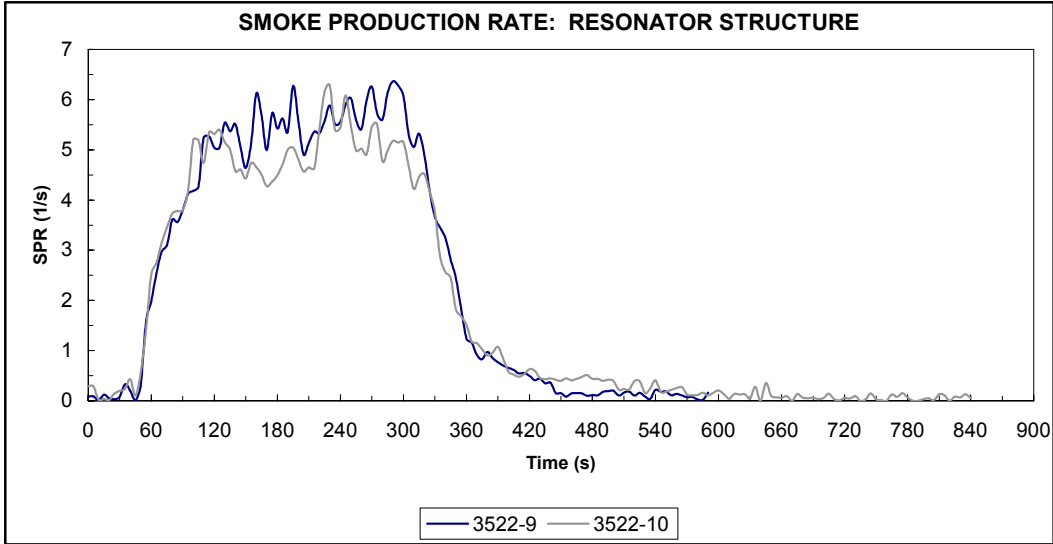


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Resonator Structure
Heat Flux: 35 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
 Vehicle Model: 1996 Caravan

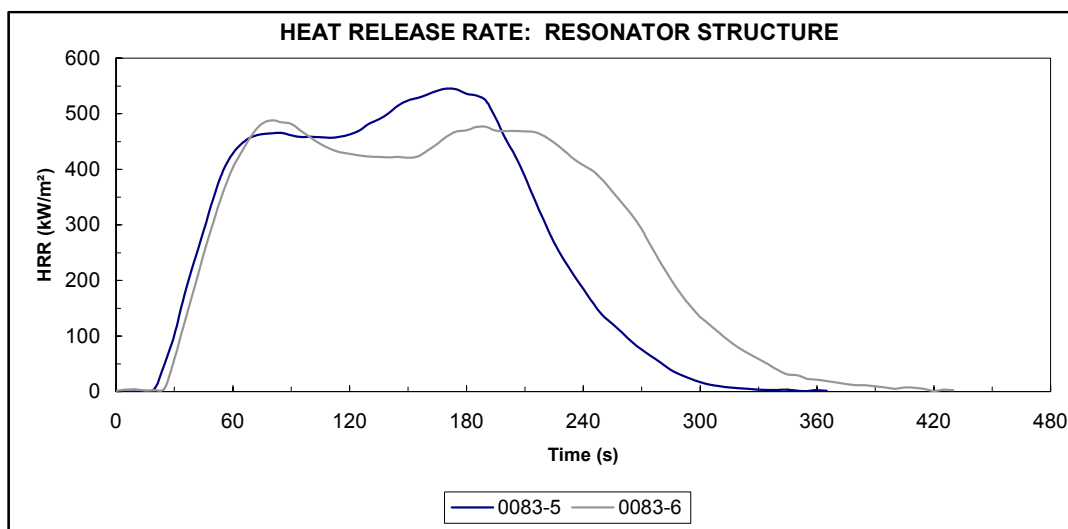
Material ID: Resonator Structure
 Heat Flux: 50 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0083-5	01/08/03	18	277	545	170	95.0	302	431	317	539
0083-6	01/08/03	20	342	488	80	109.2	276	391	358	478
Average		19	310	517	125	102.1	289	411	337	508

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
29.0	5.9	22.9	79.1	13.4	36.6	5.88	7	1756	1763	677
33.6	7.1	26.6	79.2	12.4	36.3	5.46	4	1990	1994	661
31.3	6.5	24.8	79.1	12.9	36.4	5.67	6	1873	1878	669

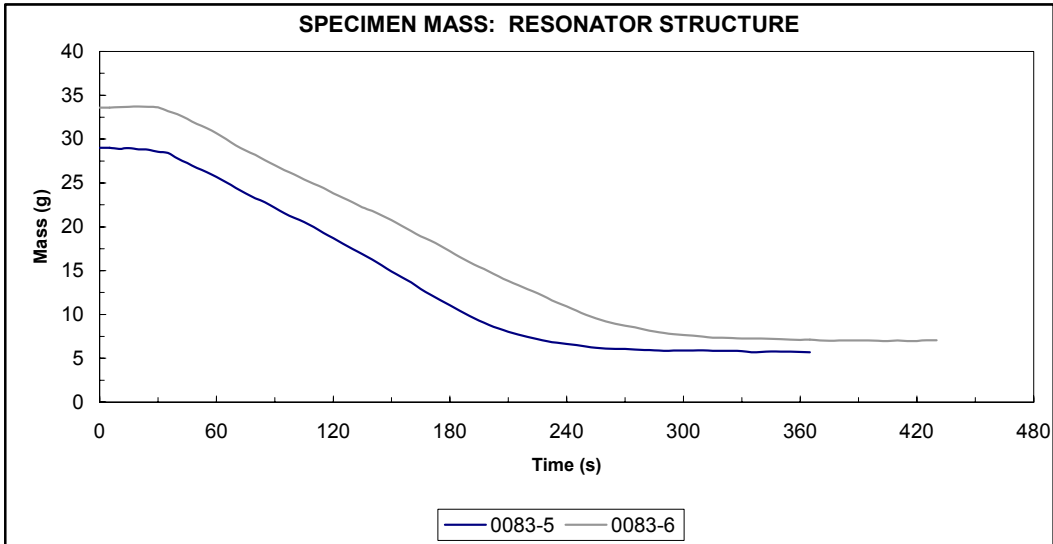
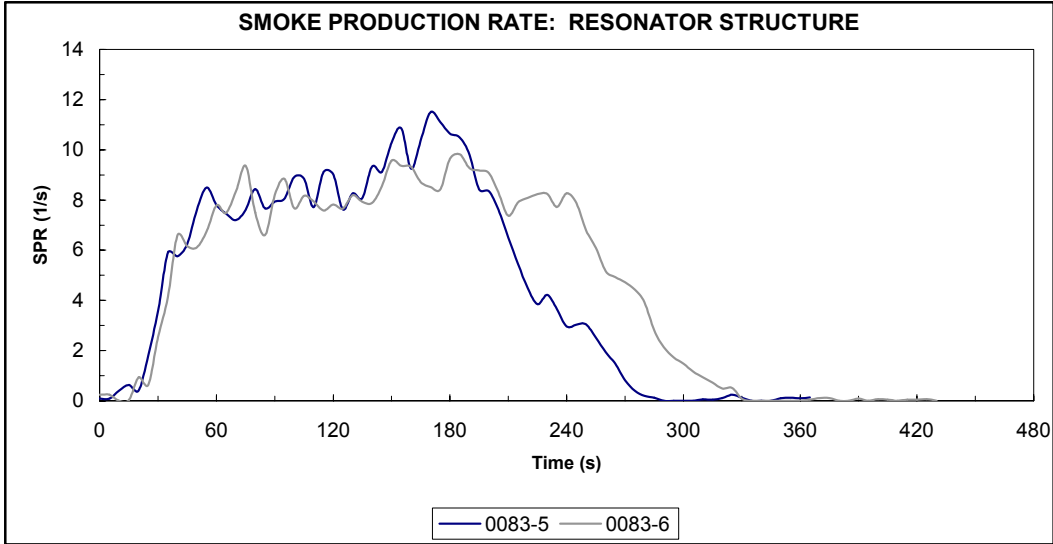


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Resonator Structure
Heat Flux: 50 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
 Vehicle Model: 1996 Caravan

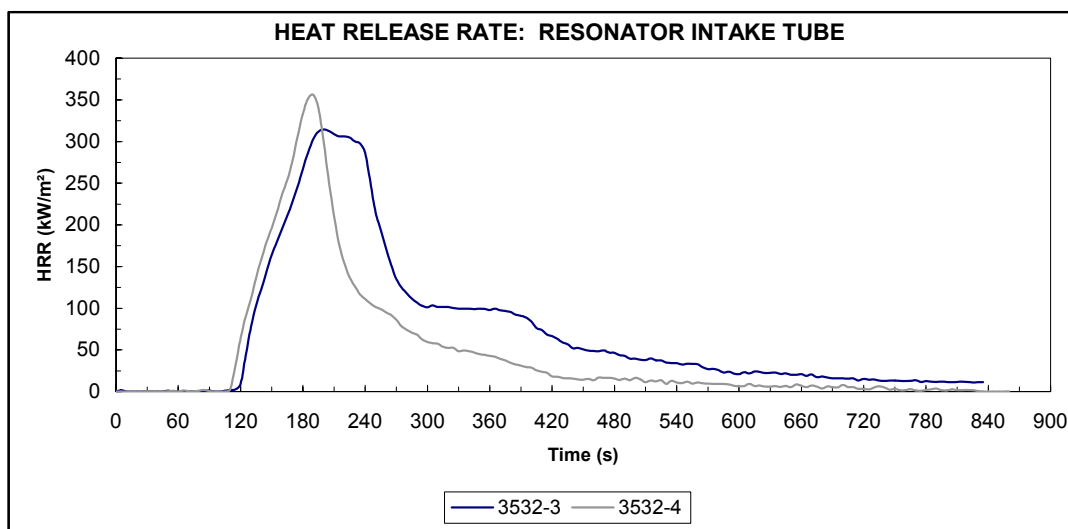
Material ID: Resonator Intake Tube
 Heat Flux: 20 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
3532-3	12/19/02	115	661	314	200	58.3	134	202	159	310
3532-4	12/19/02	111	689	356	190	39.1	151	168	119	329
Average		113	675	335	195	48.7	142	185	139	320

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
16.3	2.7	13.5	82.8	4.1	38.2	0.84	11	646	656	423
15.9	5.0	10.8	68.0	3.4	32.0	0.81	29	620	649	507
16.1	3.9	12.1	75.4	3.7	35.1	0.82	20	633	652	465

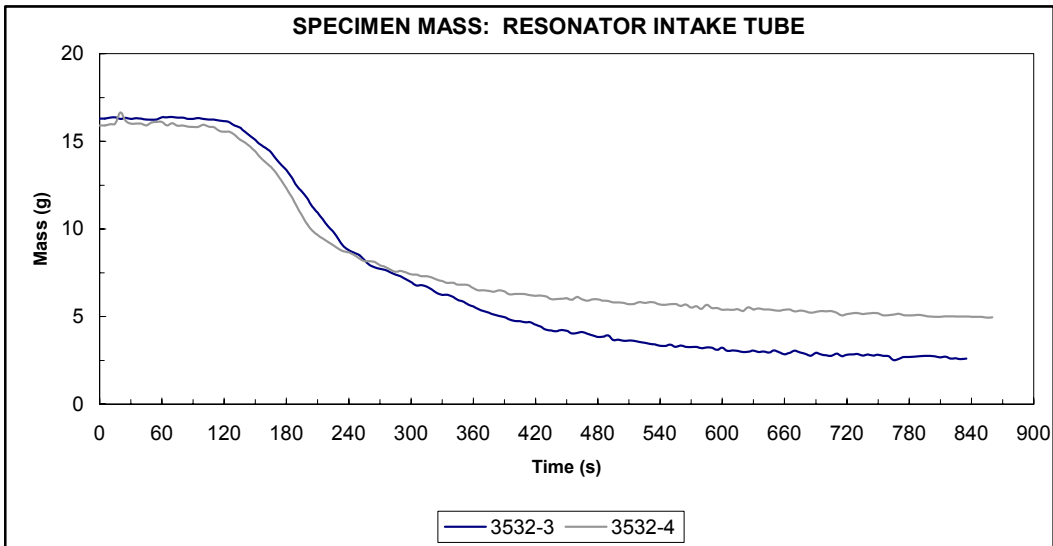
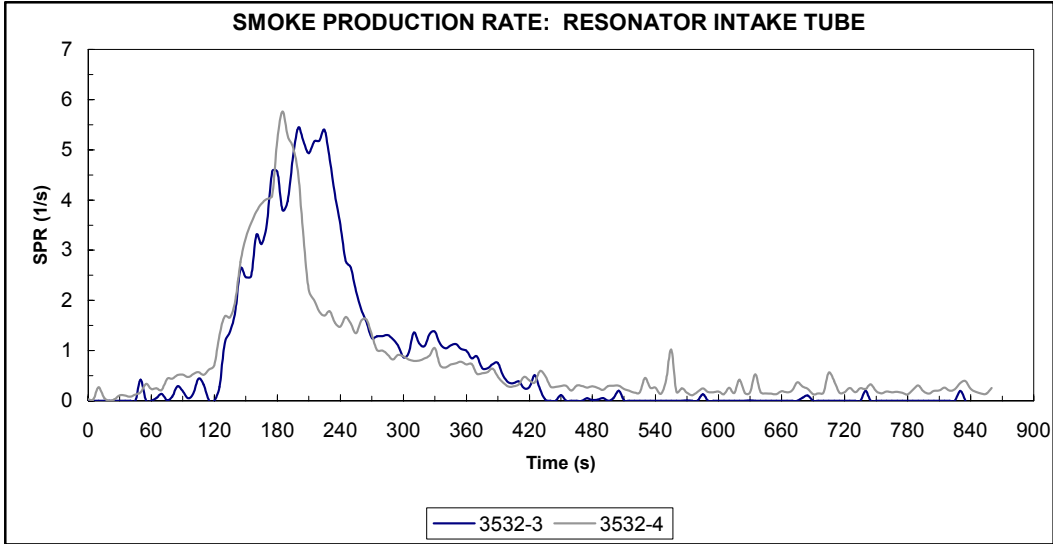


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Resonator Intake Tube
Heat Flux: 20 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
 Vehicle Model: 1996 Caravan

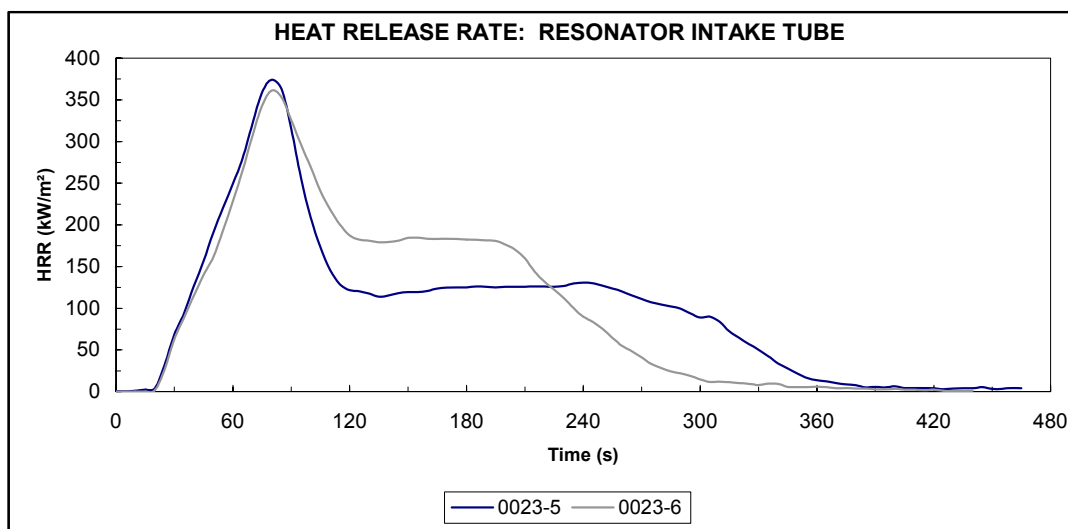
Material ID: Resonator Intake Tube
 Heat Flux: 35 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0023-5	01/02/03	27	370	374	80	45.4	220	172	147	333
0023-6	01/02/03	26	345	361	80	44.6	205	205	148	328
Average		26	358	368	80	45.0	212	188	147	331

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
15.6	1.8	13.6	87.4	5.5	29.4	1.79	7	707	714	458
15.9	0.6	15.5	97.4	7.8	25.5	1.97	3	737	740	420
15.8	1.2	14.6	92.4	6.6	27.5	1.88	5	722	727	439

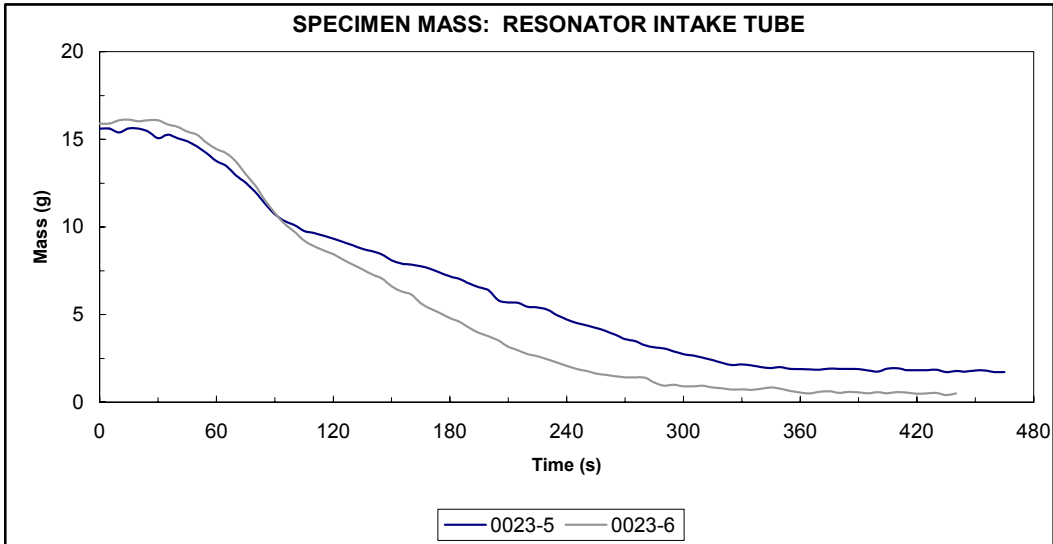
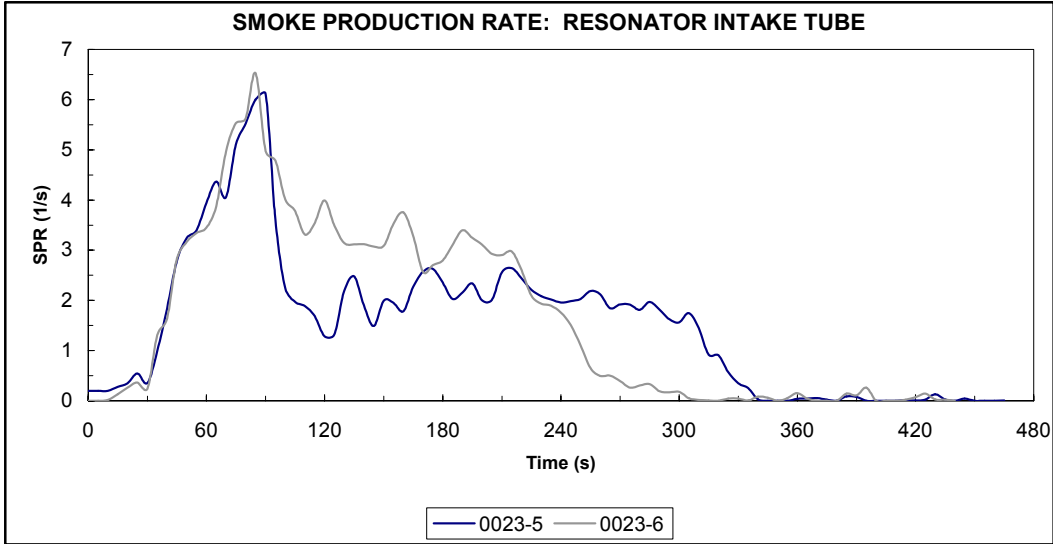


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Resonator Intake Tube
Heat Flux: 35 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
 Vehicle Model: 1996 Caravan

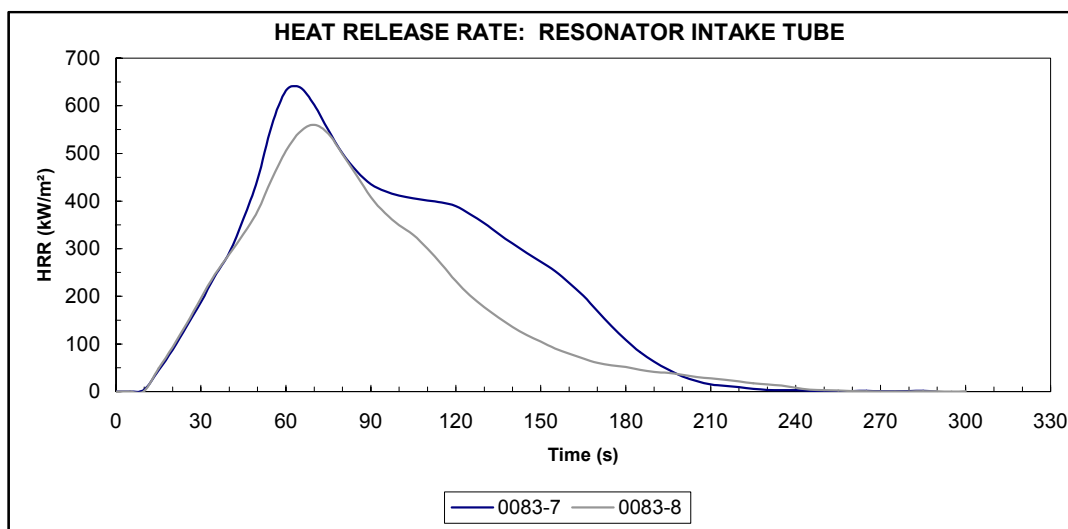
Material ID: Resonator Intake Tube
 Heat Flux: 50 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0083-7	01/08/03	13	208	639	65	59.5	374	327	198	575
0083-8	01/08/03	15	213	560	70	45.5	336	248	152	517
Average		14	210	599	68	52.5	355	288	175	546

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
14.7	0.6	13.9	94.4	12.0	37.9	4.47	1	1005	1006	640
15.4	2.6	12.7	82.7	11.5	31.6	2.83	5	659	664	458
15.1	1.6	13.3	88.6	11.7	34.7	3.65	3	832	835	549

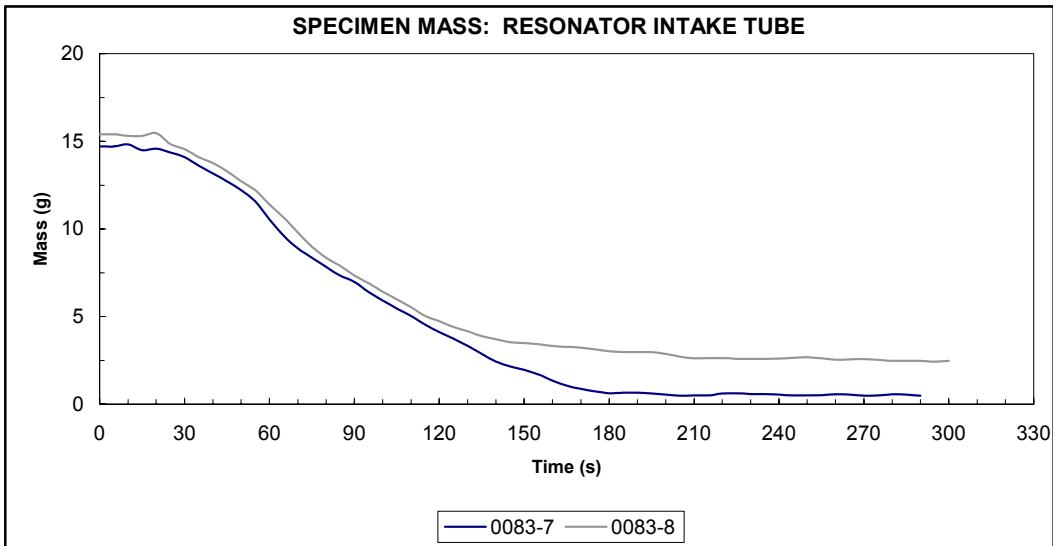
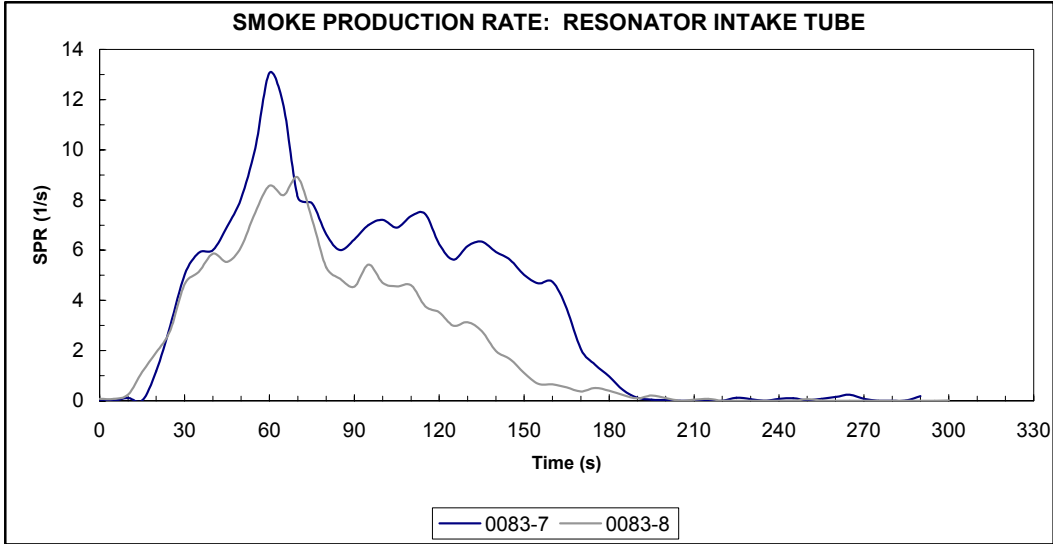


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Resonator Intake Tube
Heat Flux: 50 kW/m²

(Page 2)



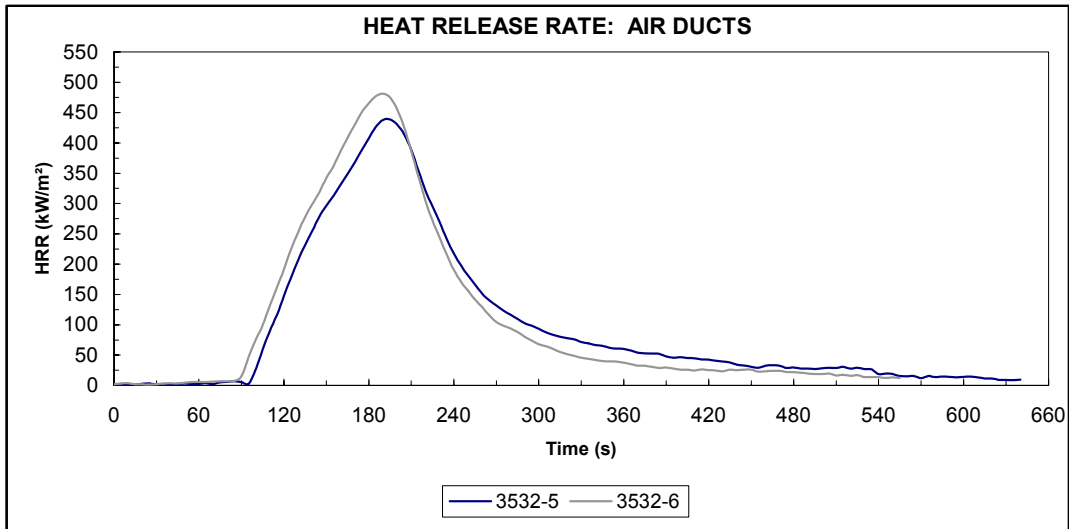
Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make:	Dodge	Material ID:	Air Ducts
Vehicle Model:	1996 Caravan	Heat Flux:	20 kW/m ²
Orientation:	Horizontal	Sample Area:	0.00884 m ²
Frame:	Yes	Distance:	25 mm
Spark Igniter:	Yes	Operator:	J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
3532-5	12/19/02	94	483	439	195	60.8	170	259	185	424
3532-6	12/19/02	86	408	481	190	58.9	161	274	187	465
<i>Average</i>		90	446	460	193	59.9	166	266	186	445

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
19.8	5.2	14.5	73.4	5.6	37.0	1.45	12	827	840	503
19.2	5.1	14.1	73.5	7.7	36.9	1.55	17	756	772	474
19.5	5.1	14.3	73.4	6.7	37.0	1.50	15	792	806	488

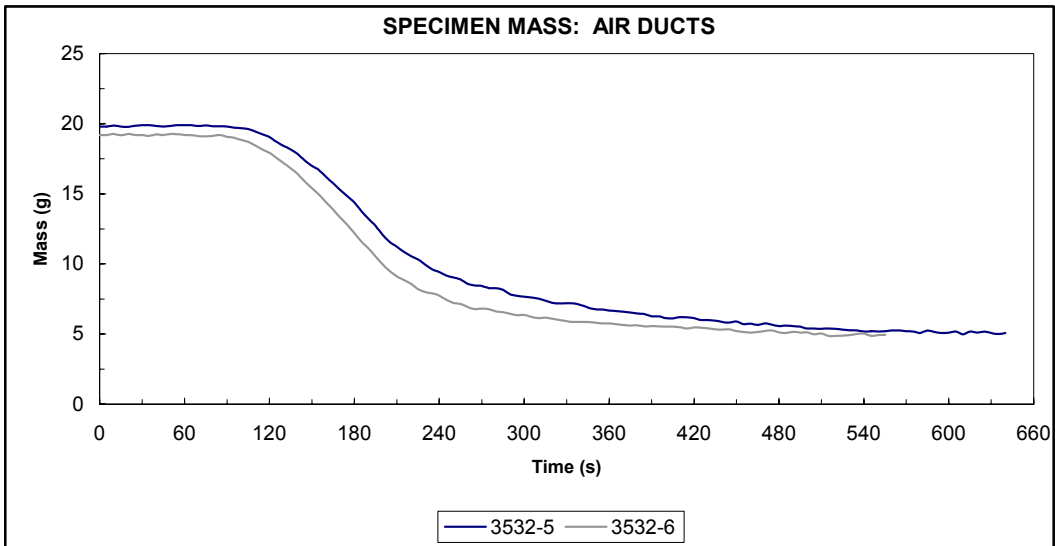
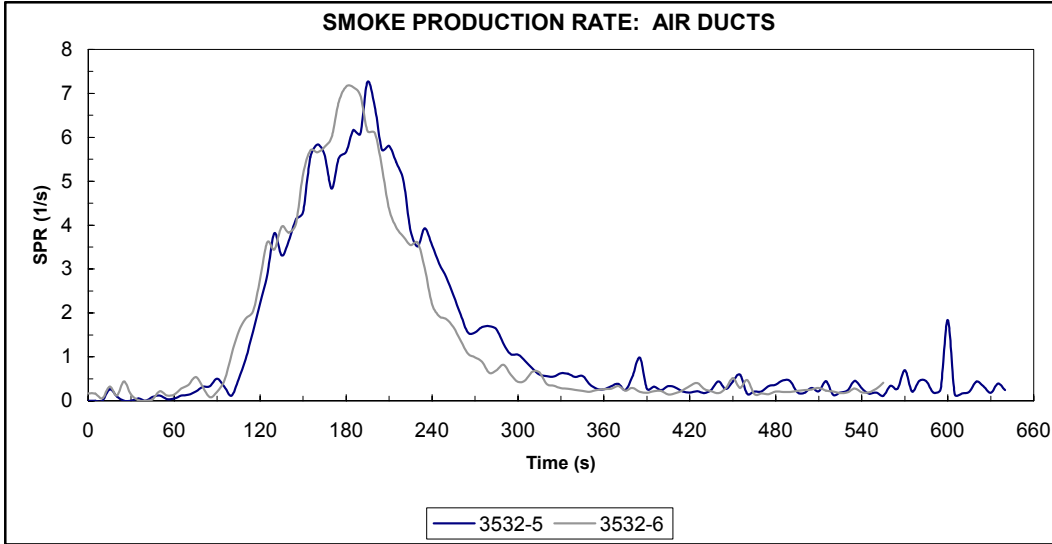


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Air Ducts
Heat Flux: 20 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
 Vehicle Model: 1996 Caravan

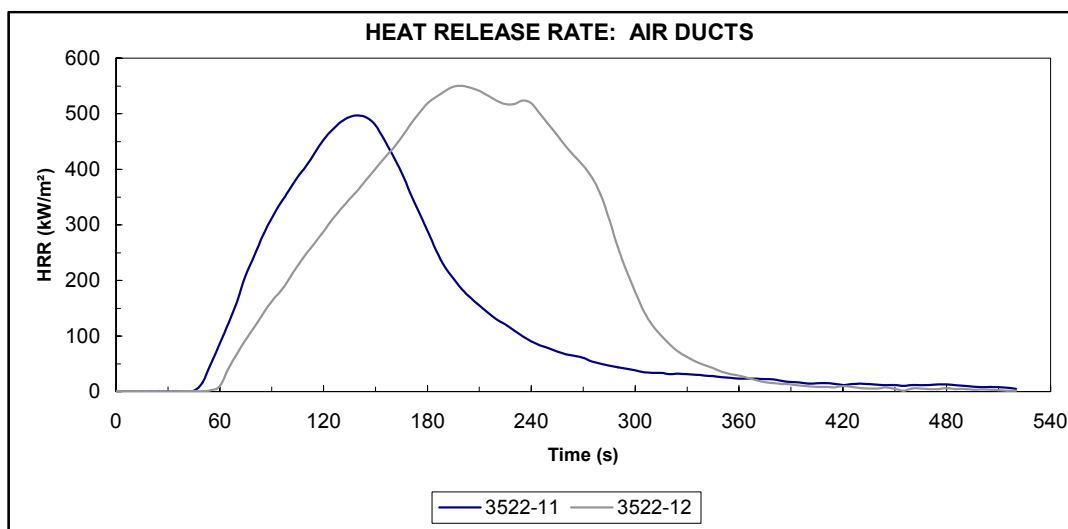
Material ID: Air Ducts
 Heat Flux: 35 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
3522-11	12/18/02	31	427	497	140	61.4	111	282	197	485
3522-12	12/18/02	38	421	550	200	94.1	77	307	308	543
<i>Average</i>		34	424	524	170	77.8	94	294	252	514

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
20.1	4.2	16.0	79.4	9.3	34.0	1.69	3	783	786	434
29.1	5.0	24.1	82.9	13.2	34.5	2.44	8	1128	1136	413
24.6	4.6	20.0	81.1	11.3	34.3	2.07	6	956	961	423

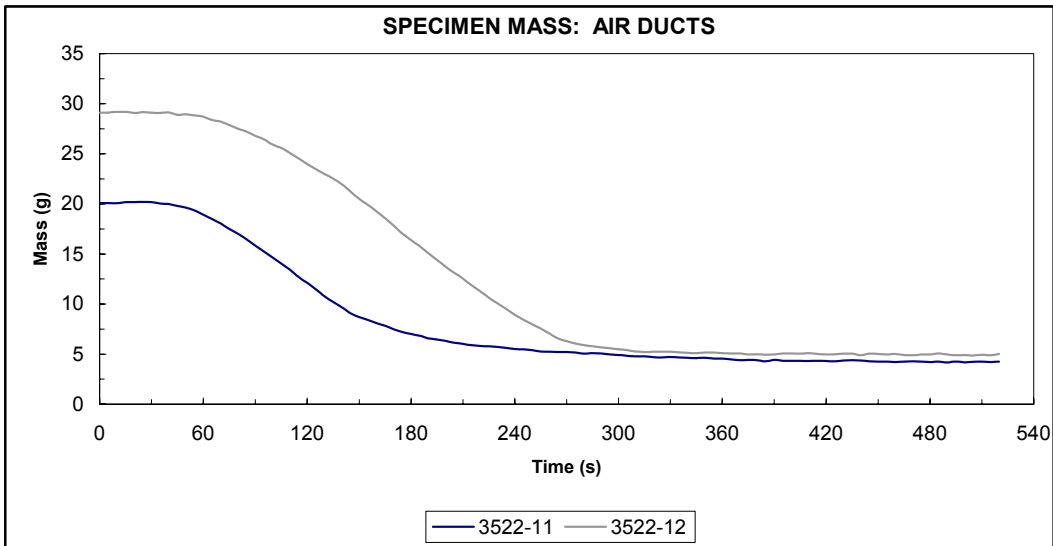
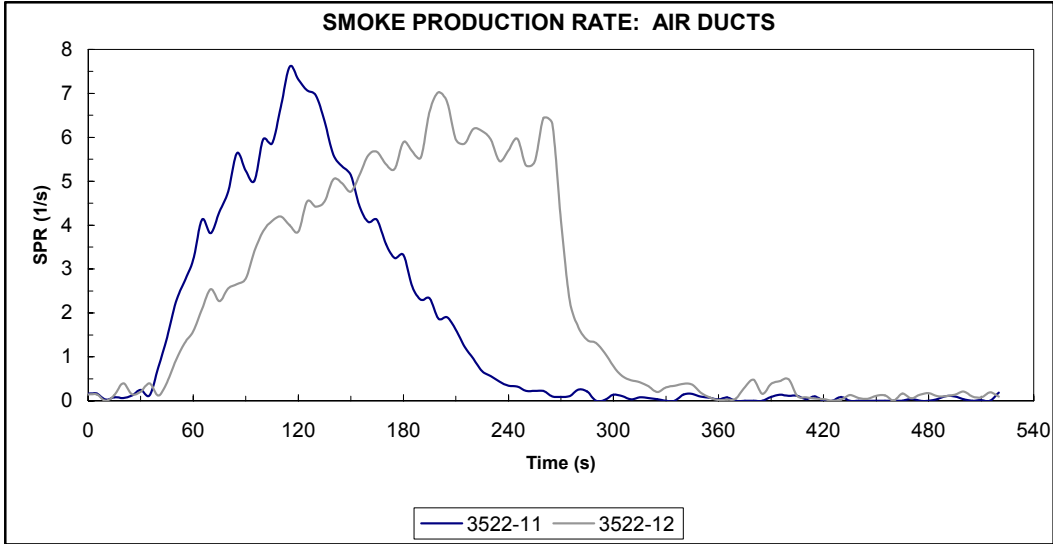


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Air Ducts
Heat Flux: 35 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
 Vehicle Model: 1996 Caravan

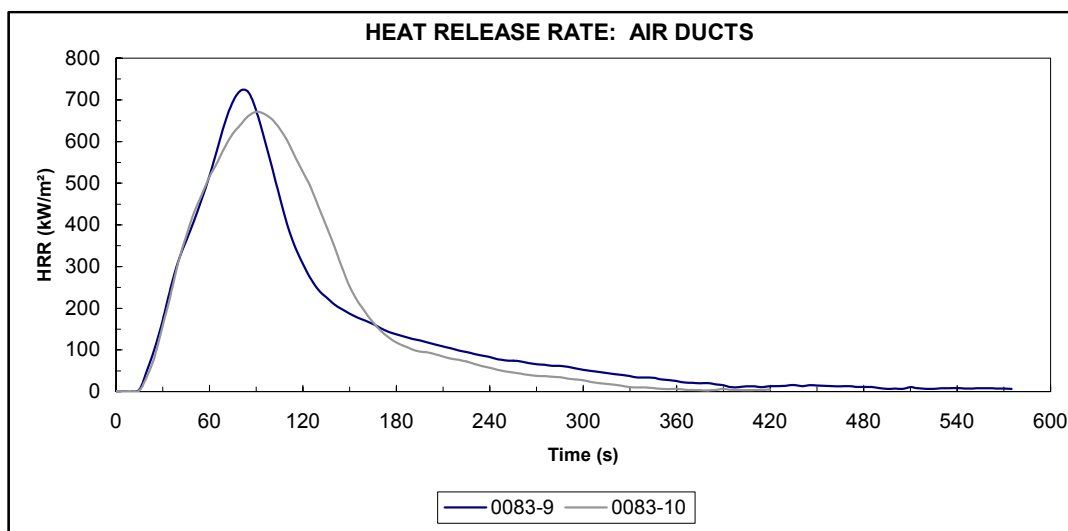
Material ID: Air Ducts
 Heat Flux: 50 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0083-9	01/08/03	15	488	723	80	72.6	351	332	230	675
0083-10	01/08/03	17	330	671	90	73.8	338	373	245	653
Average		16	409	697	85	73.2	345	353	238	664

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
21.7	4.4	17.2	79.3	8.0	37.3	2.22	0	1132	1132	581
22.2	4.3	17.8	80.1	11.9	36.7	3.31	2	1157	1159	575
22.0	4.3	17.5	79.7	10.0	37.0	2.77	1	1145	1146	578

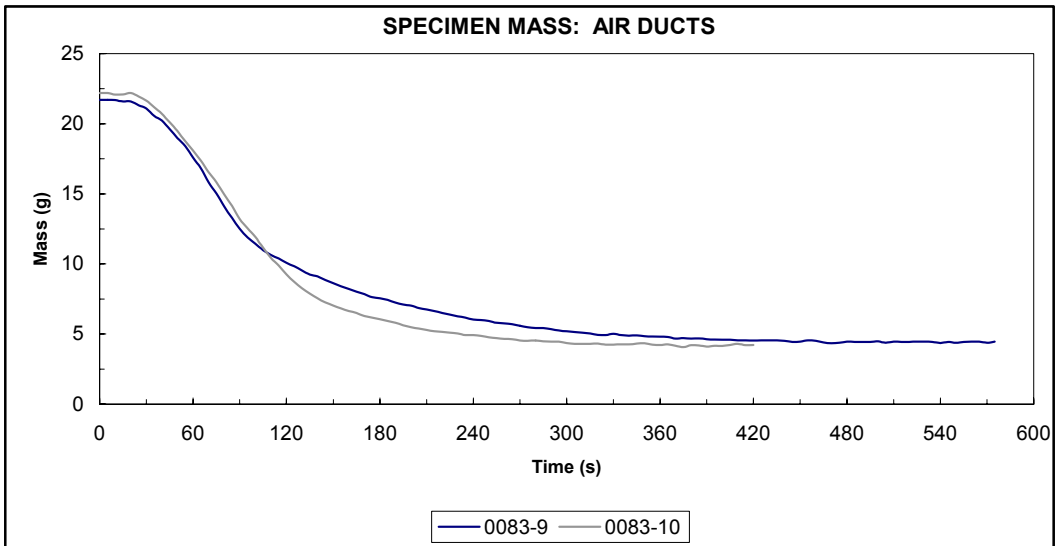
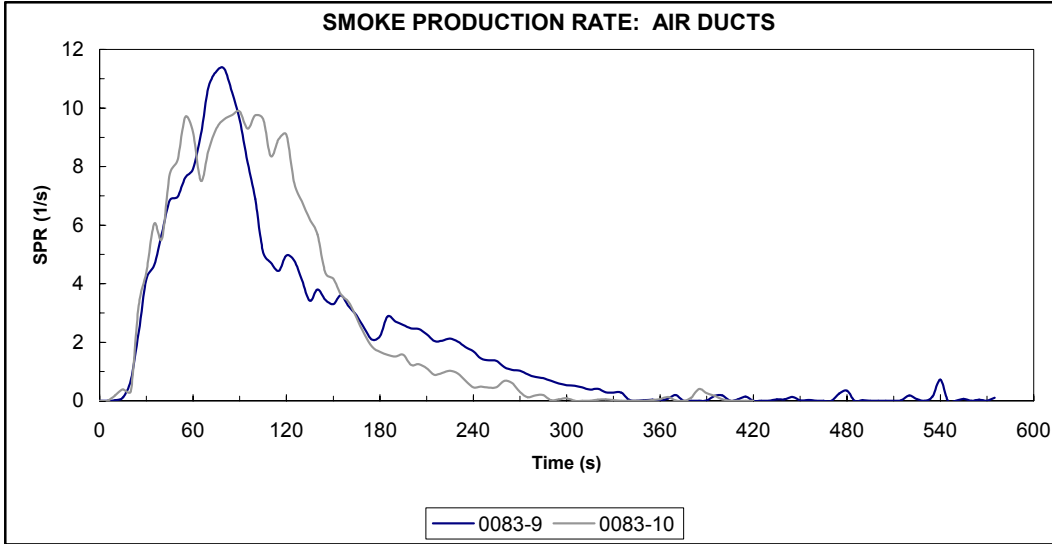


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Air Ducts
Heat Flux: 50 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
 Vehicle Model: 1996 Caravan

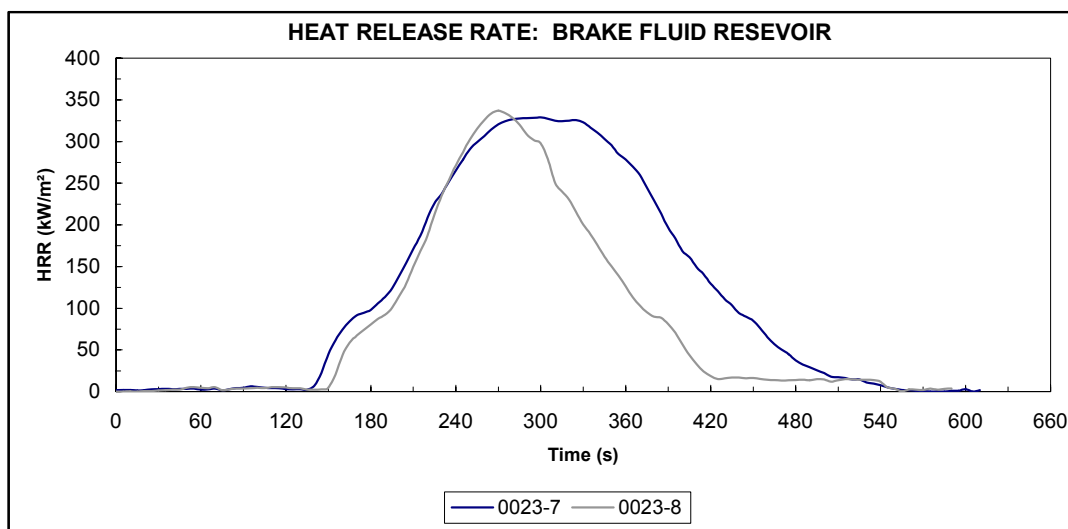
Material ID: Brake Fluid Reservoir
 Heat Flux: 20 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0023-7	01/02/03	142	401	329	300	68.9	82	213	217	328
0023-8	01/02/03	152	373	337	270	48.1	79	207	157	329
Average		147	387	333	285	58.5	81	210	187	329

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
20.7	0.2	20.6	99.5	9.1	29.6	1.94	39	1027	1066	441
21.6	6.6	14.9	68.9	8.7	28.6	1.15	6	602	608	358
21.2	3.4	17.7	84.2	8.9	29.1	1.54	23	815	837	399

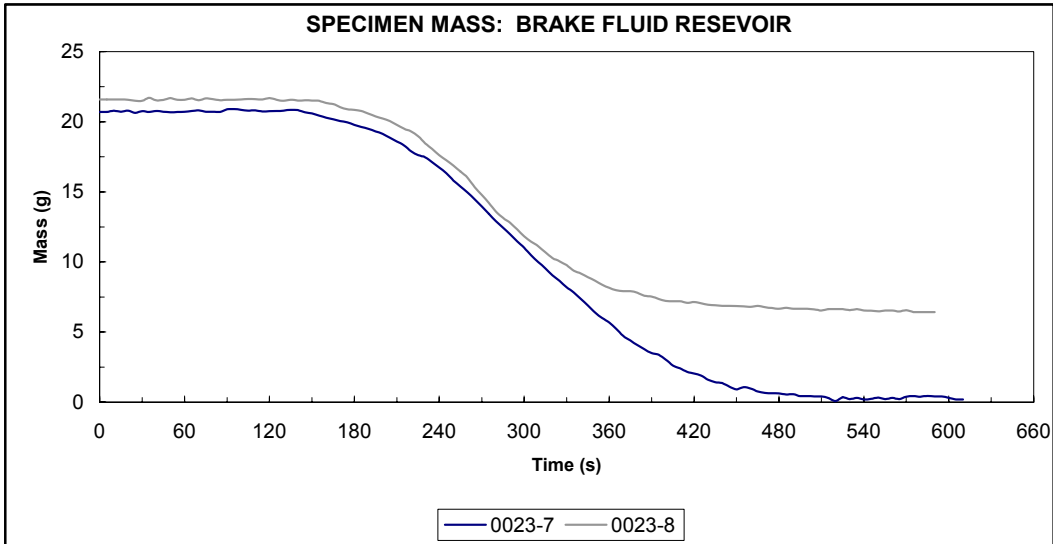
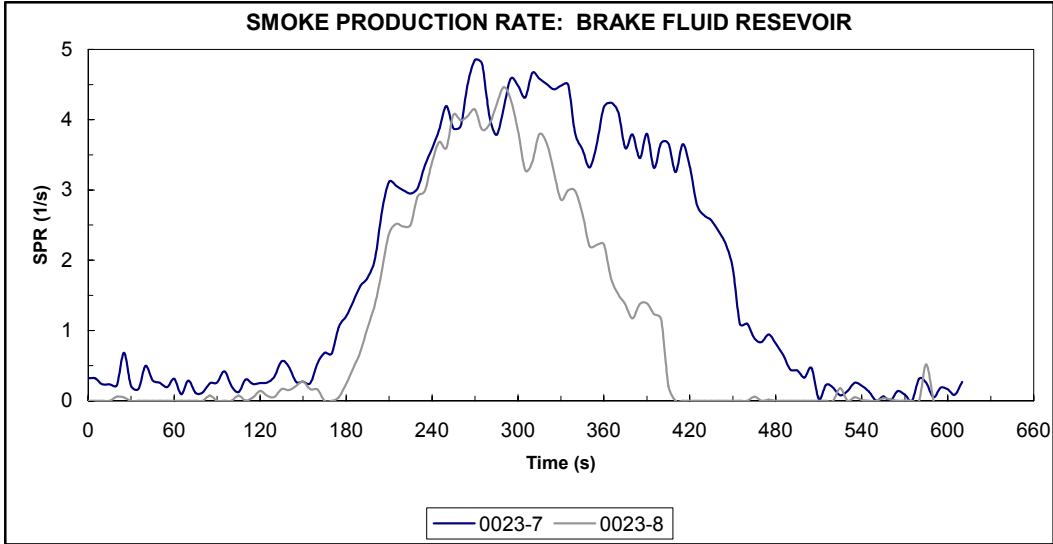


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Brake Fluid Reservoir
Heat Flux: 20 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
 Vehicle Model: 1996 Caravan

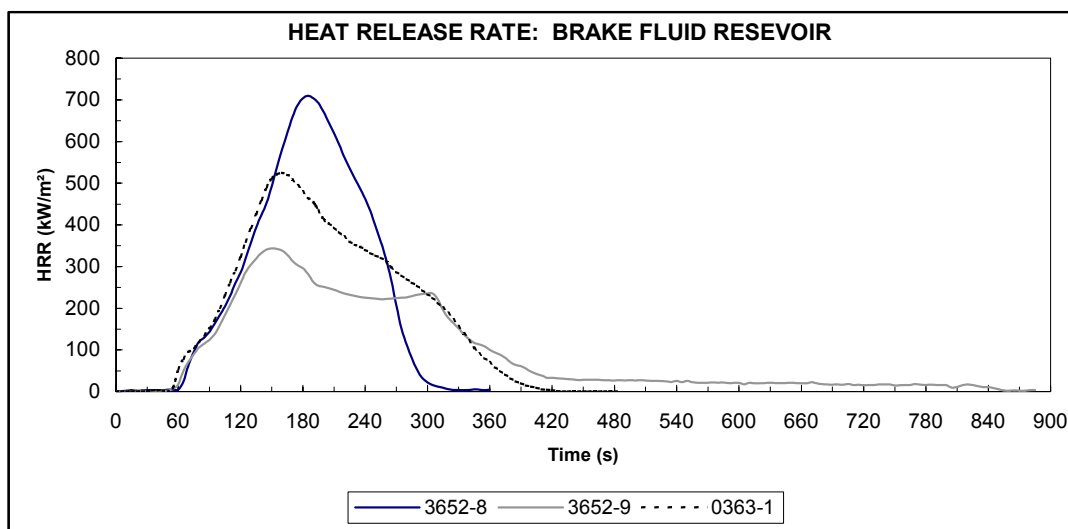
Material ID: Brake Fluid Reservoir
 Heat Flux: 35 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
3652-8	12/31/02	62	228	710	185	88.4	147	419	295	694
3652-9	12/31/02	58	756	344	150	77.4	135	234	217	337
0363-1	02/05/03	52	362	525	160	90.5	124	327	294	513
Average		57	449	526	165	85.4	135	327	269	515

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
24.4	3.2	21.0	86.0	14.6	37.2	4.31	7	1263	1270	532
27.1	5.9	21.2	78.2	5.7	32.3	1.36	7	1109	1116	463
22.0	0.2	21.7	98.8	10.1	36.8	3.24	2	1360	1362	553
24.5	3.1	21.3	87.7	10.1	35.4	2.97	5	1244	1249	516

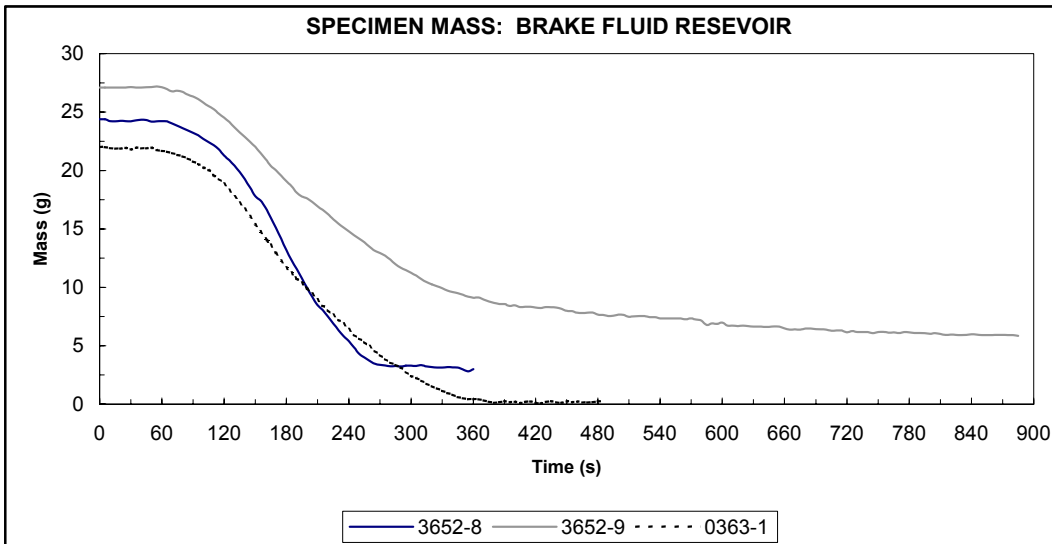
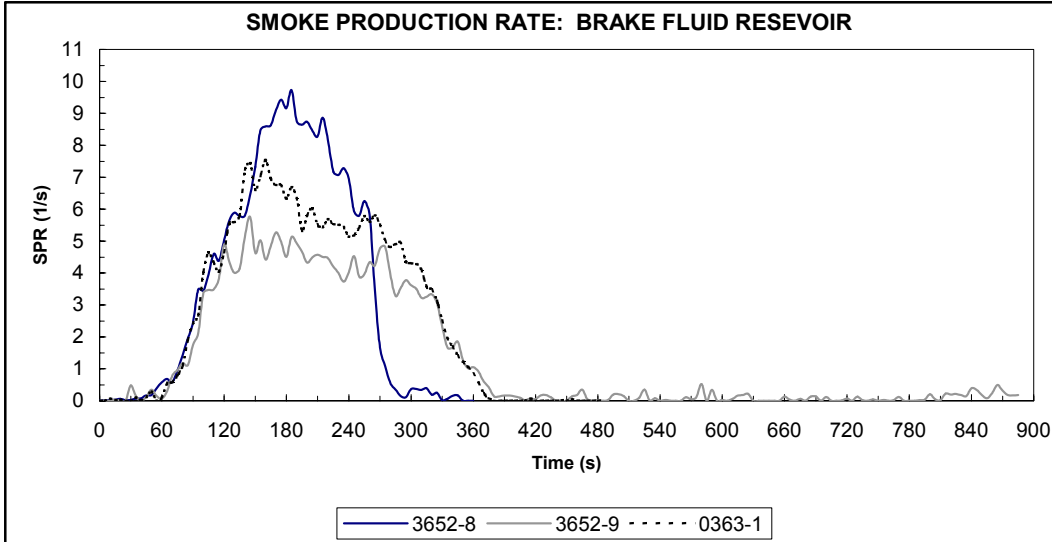


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Brake Fluid Reservoir
Heat Flux: 35 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
 Vehicle Model: 1996 Caravan

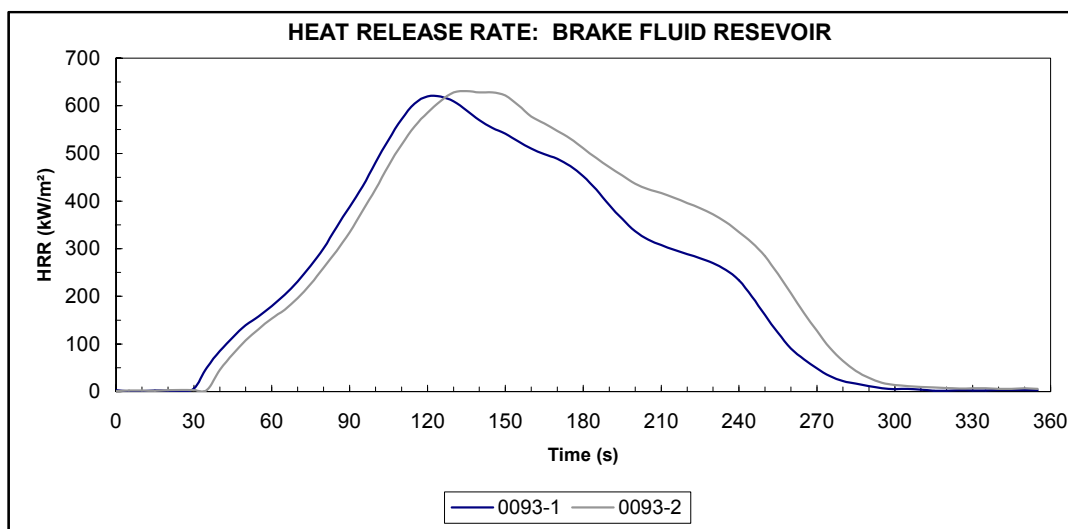
Material ID: Brake Fluid Reservoir
 Heat Flux: 50 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0093-1	01/09/03	32	254	620	120	83.3	189	392	278	602
0093-2	01/09/03	40	243	631	135	92.3	214	425	308	624
Average		36	248	626	128	87.8	202	409	293	613

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
23.1	2.2	21.0	91.0	12.7	35.0	4.53	0	1312	1312	552
25.5	3.2	22.2	87.2	13.9	36.7	4.85	17	1389	1406	552
24.3	2.7	21.6	89.1	13.3	35.9	4.69	9	1351	1359	552

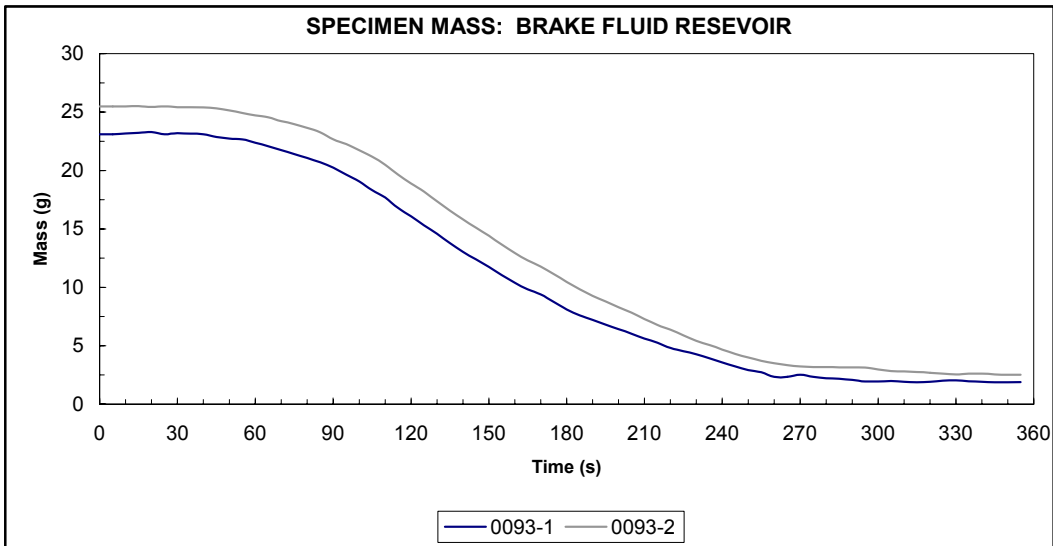
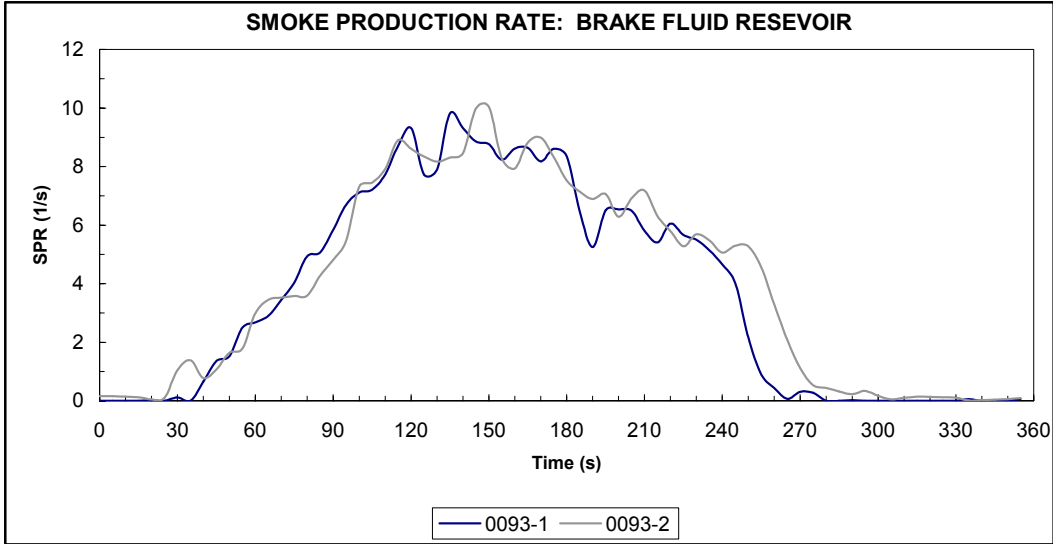


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Brake Fluid Reservoir
Heat Flux: 50 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
 Vehicle Model: 1996 Caravan

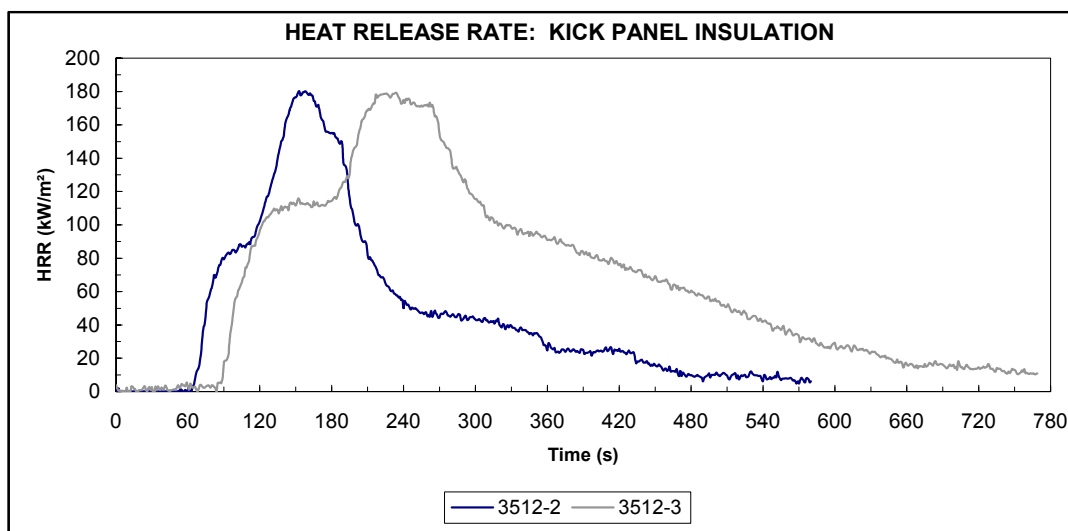
Material ID: Kick Panel Insulation
 Heat Flux: 20 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
3512-2	12/17/02	47	492	180	153	26.9	45	100	78	174
3512-3	12/17/02	56	681	179	234	49.8	27	96	109	177
Average		52	586	180	194	38.4	36	98	94	176

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
32.1	22.5	9.4	29.4	3.5	25.2	0.59	2	317	318	296
52.8	35.6	17.2	32.6	4.3	25.6	0.72	1	531	532	272
42.5	29.0	13.3	31.0	3.9	25.4	0.66	1	424	425	284

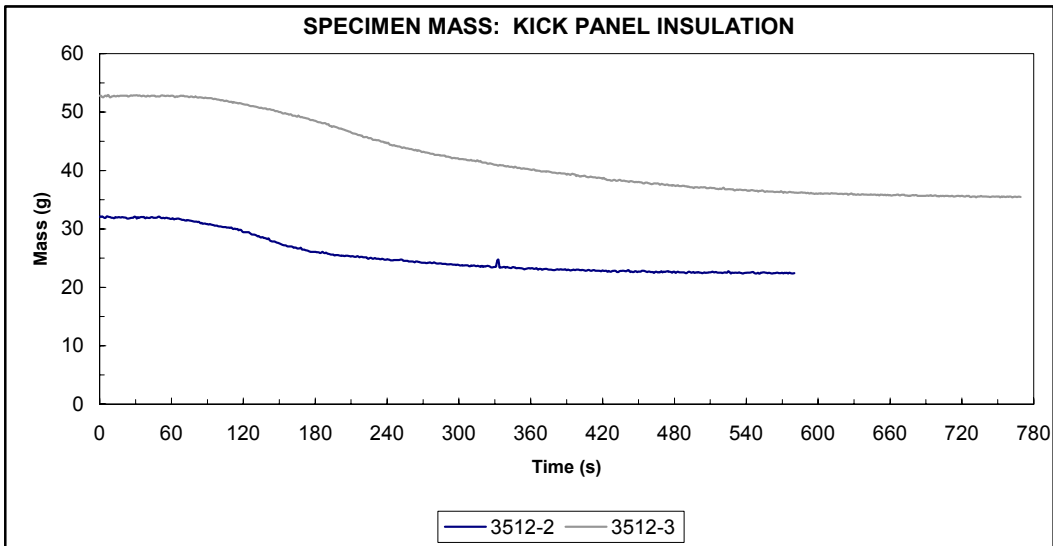
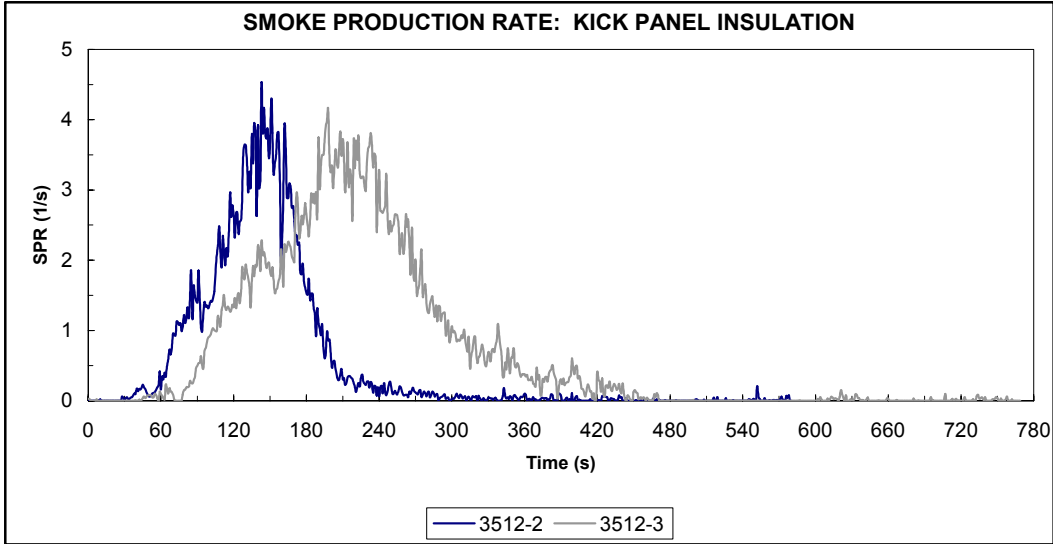


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Kick Panel Insulation
Heat Flux: 20 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
 Vehicle Model: 1996 Caravan

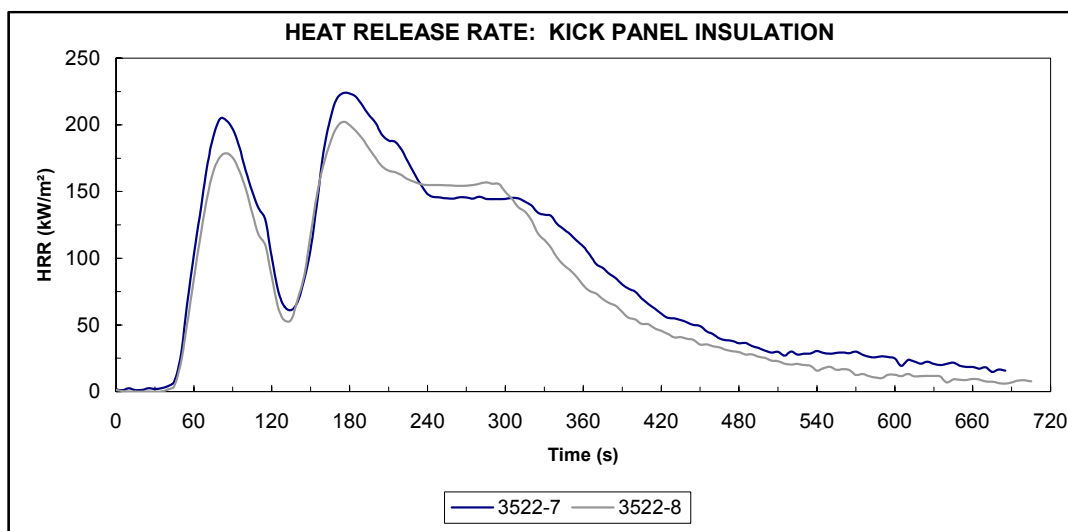
Material ID: Kick Panel Insulation
 Heat Flux: 35 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
3522-7	12/18/02	32	595	224	175	58.3	101	138	143	218
3522-8	12/18/02	31	613	202	175	51.7	86	123	134	195
Average		32	604	213	175	55.0	93	130	138	206

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
46.7	28.3	18.4	39.3	5.2	28.1	1.12	1	705	707	340
45.9	27.5	18.4	40.2	5.5	24.8	1.20	1	779	780	373
46.3	27.9	18.4	39.7	5.3	26.4	1.16	1	742	743	357

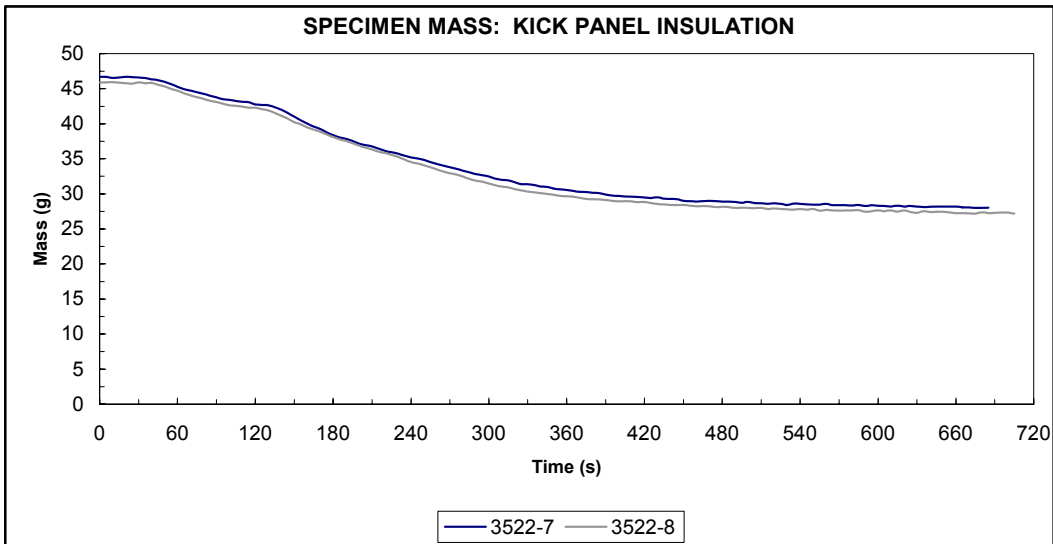
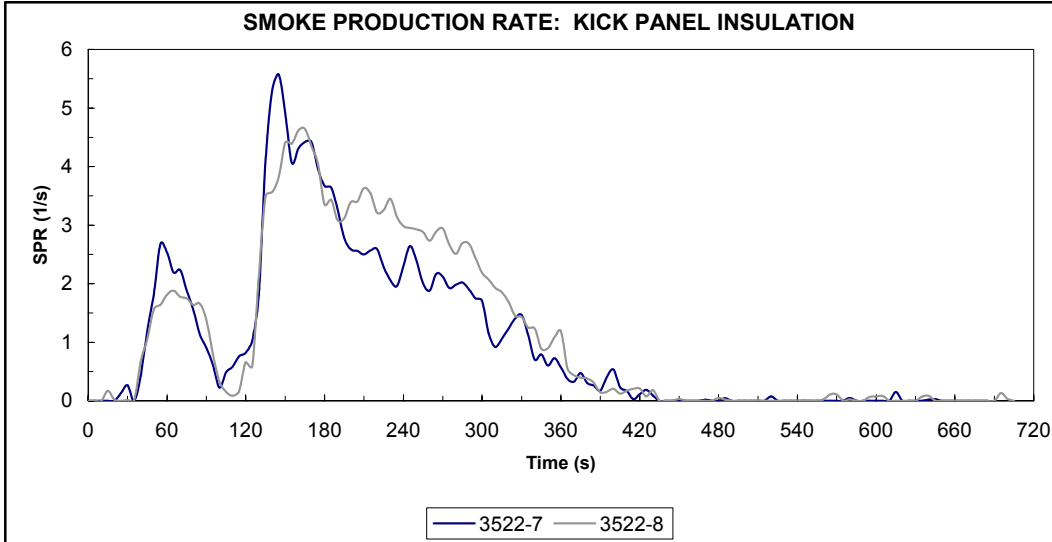


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Kick Panel Insulation
Heat Flux: 35 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
 Vehicle Model: 1996 Caravan

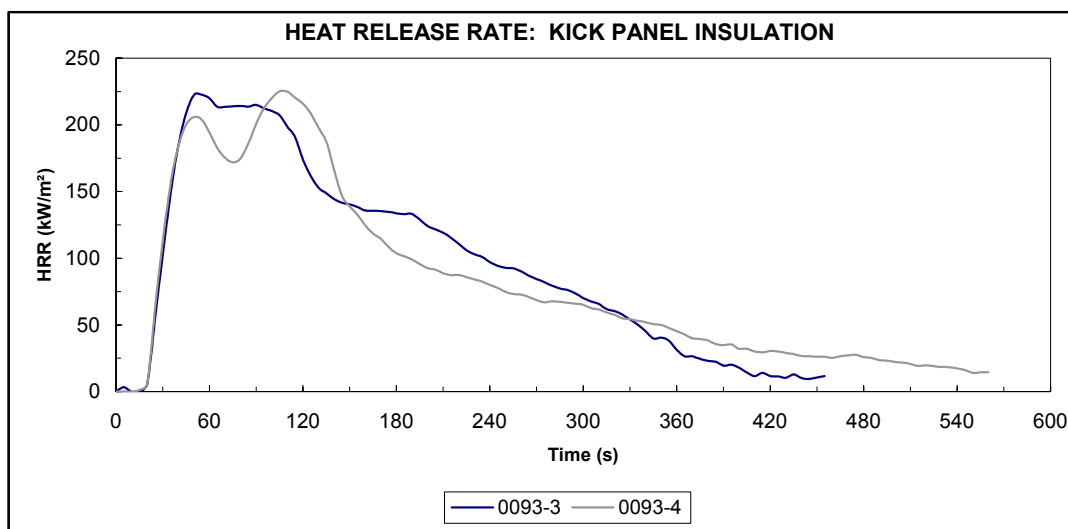
Material ID: Kick Panel Insulation
 Heat Flux: 50 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0093-3	01/09/03	24	363	223	55	43.2	191	169	137	217
0093-4	01/09/03	22	472	225	105	44.2	161	162	127	219
Average		23	418	224	80	43.7	176	166	132	218

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
43.4	29.5	13.7	31.5	5.4	27.9	2.09	13	801	815	519
46.0	32.1	14.0	30.5	4.2	27.9	1.27	2	635	637	400
44.7	30.8	13.8	31.0	4.8	27.9	1.68	8	718	726	459

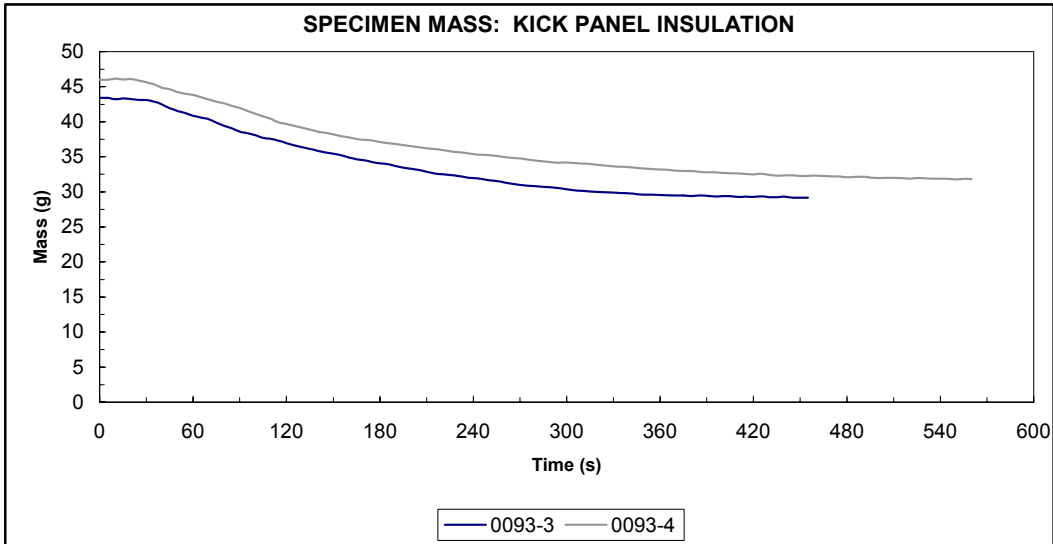
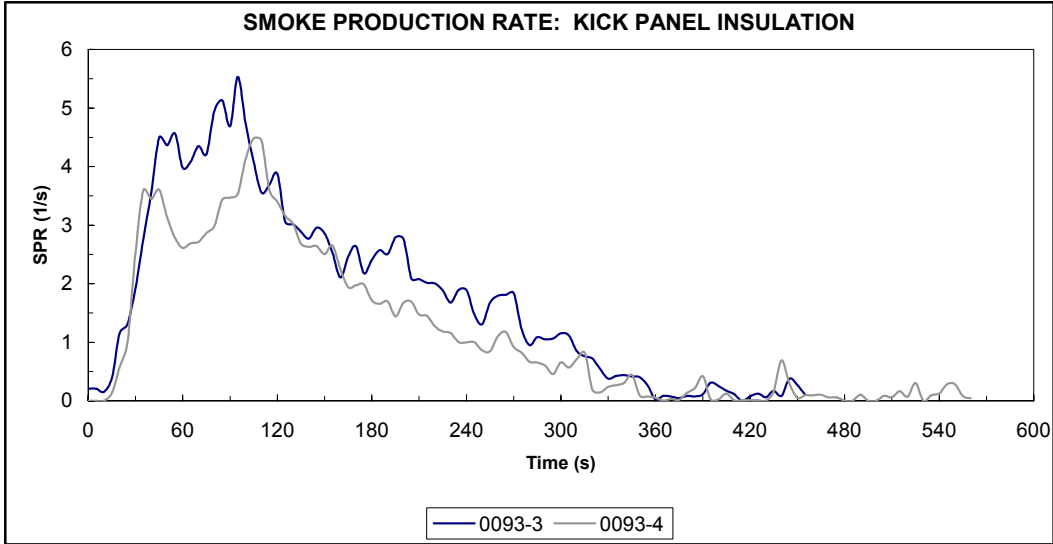


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Kick Panel Insulation
Heat Flux: 50 kW/m²

(Page 2)



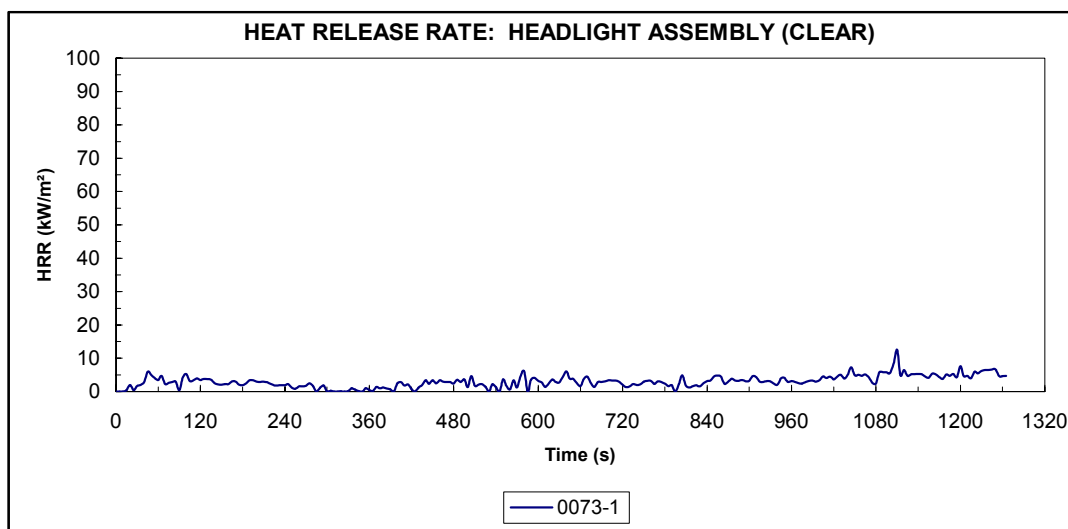
Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

<i>Vehicle Make:</i> Dodge	<i>Material ID:</i> Headlight Assembly (Clear)
<i>Vehicle Model:</i> 1996 Caravan	<i>Heat Flux:</i> 20 kW/m ²
<i>Orientation:</i> Horizontal	<i>Sample Area:</i> 0.00884 m ²
<i>Frame:</i> Yes	<i>Distance:</i> 25 mm
<i>Spark Igniter:</i> Yes	<i>Operator:</i> J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0073-1	01/07/03	No Ignition		12	1110	3.8	2	3	2	7
<i>Average</i>		No Ignition		12	1110	3.8	2	3	2	7

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
46.7	46.2	0.5	1.1	0.1	66.1	0.18	233	N/A	233	4033
46.7	46.2	0.5	1.1	0.1	66.1	0.18	233	N/A	233	4033

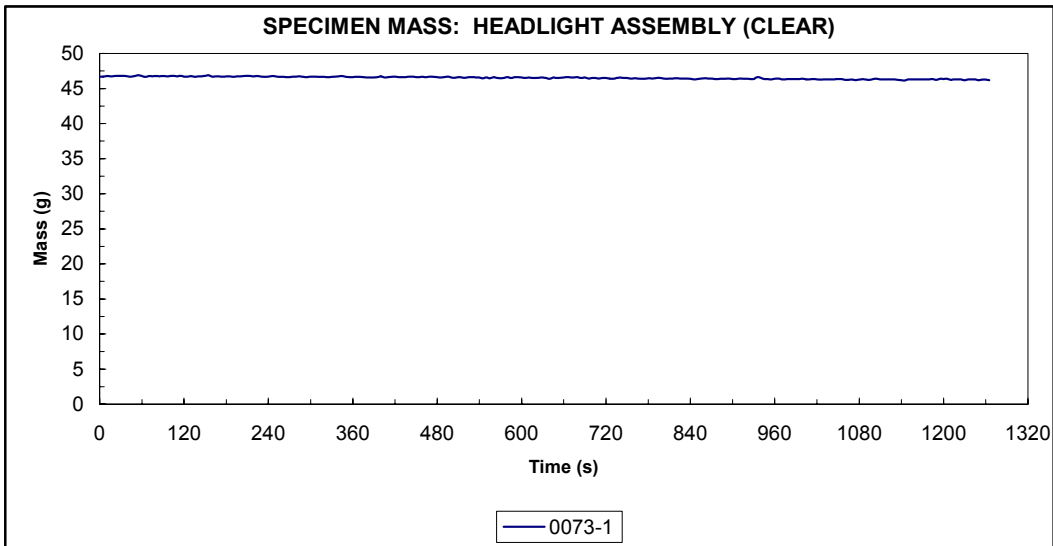
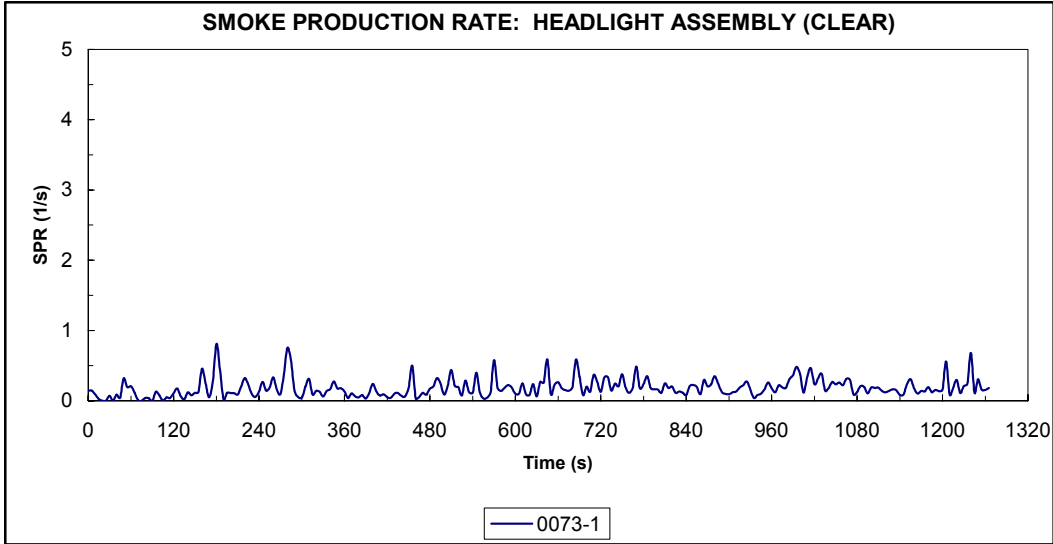


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Headlight Assembly (Clear)
Heat Flux: 20 kW/m²

(Page 2)



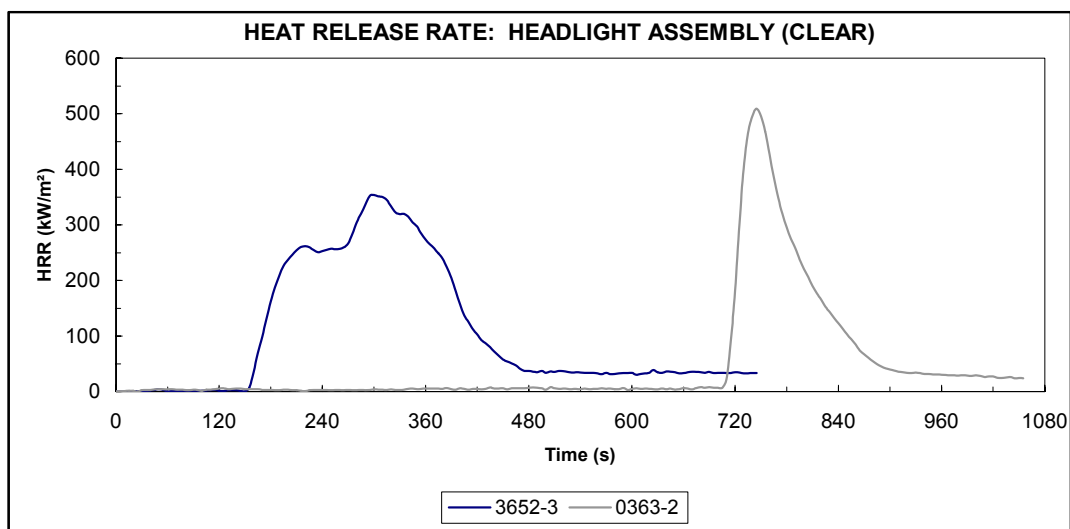
Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

<i>Vehicle Make:</i> Dodge	<i>Material ID:</i> Headlight Assembly (Clear)
<i>Vehicle Model:</i> 1996 Caravan	<i>Heat Flux:</i> 35 kW/m ²
<i>Orientation:</i> Horizontal	<i>Sample Area:</i> 0.00884 m ²
<i>Frame:</i> Yes	<i>Distance:</i> 25 mm
<i>Spark Igniter:</i> Yes	<i>Operator:</i> J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
3652-3	12/31/02	145	433	354	300	71.8	124	235	222	348
0363-2	02/05/03	712	277	509	745	44.3	368	228	148	475
<i>Average</i>		428	355	431	523	58.1	246	231	185	411

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
48.1	13.5	34.7	72.1	15.3	18.3	4.65	32	2686	2718	685
46.3	18.8	18.9	40.8	14.2	20.8	2.46	1168	1279	2447	599
47.2	16.1	26.8	56.4	14.8	19.5	3.55	600	1983	2582	642

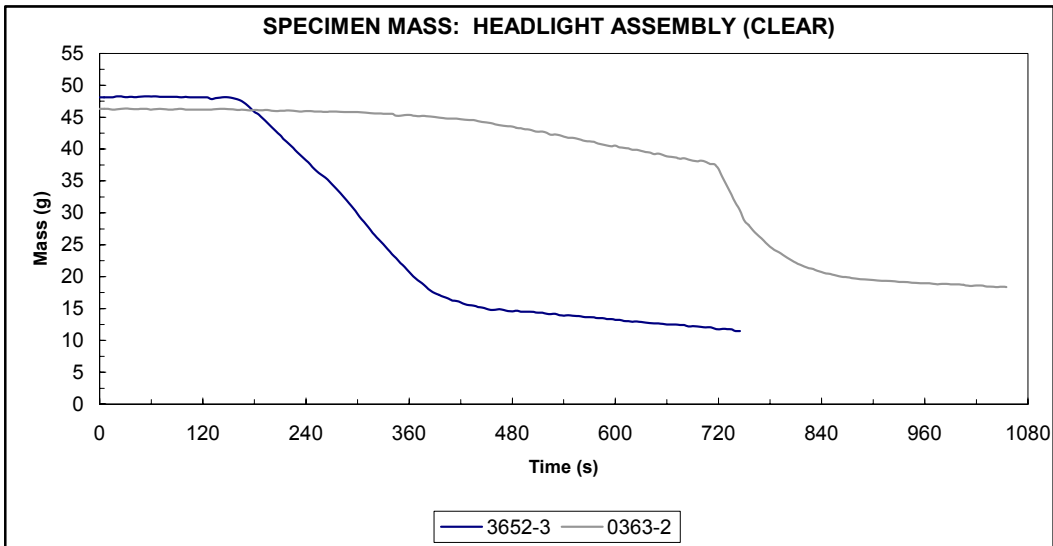
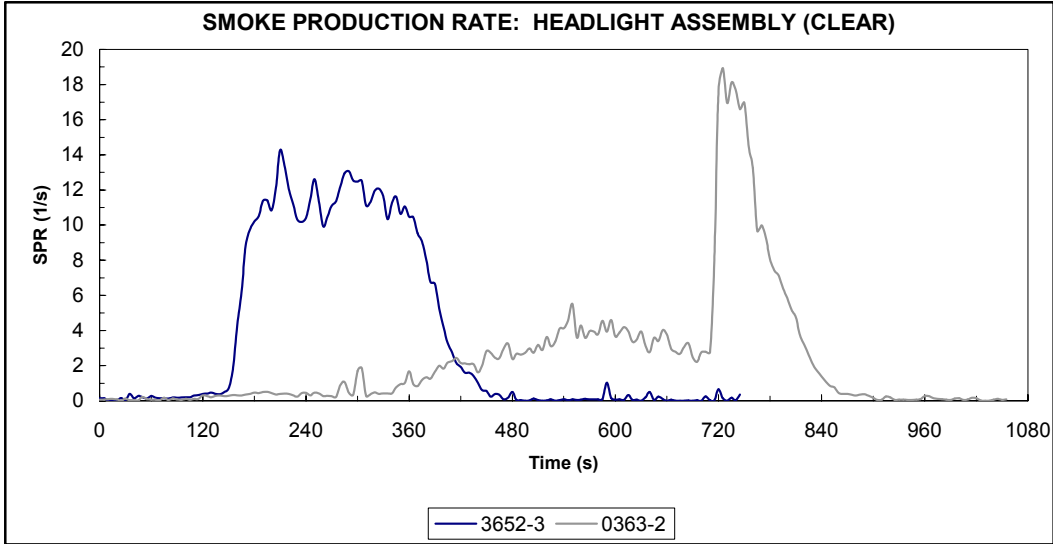


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Headlight Assembly (Clear)
Heat Flux: 35 kW/m²

(Page 2)



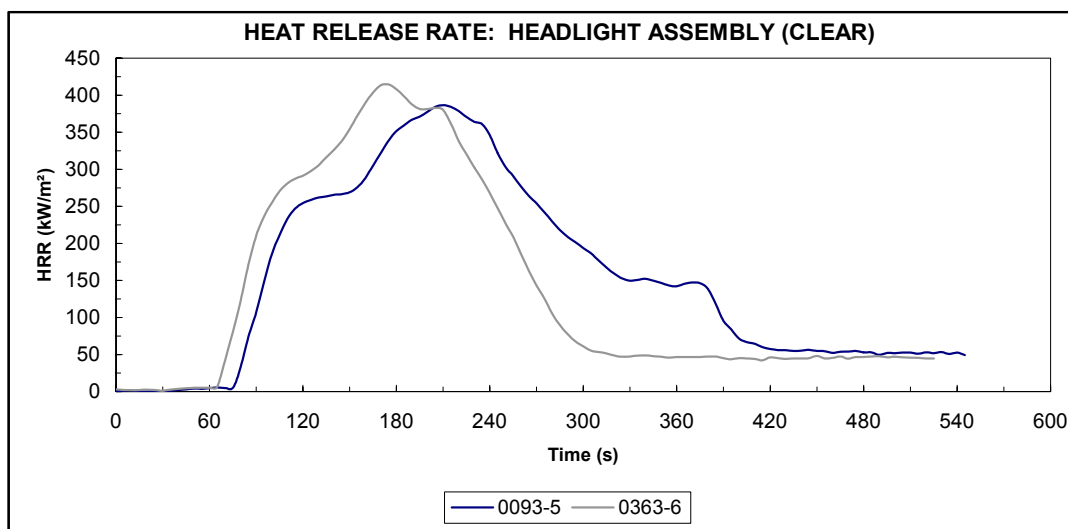
Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge	Material ID: Headlight Assembly (Clear)
Vehicle Model: 1996 Caravan	Heat Flux: 50 kW/m ²
Orientation: Horizontal	Sample Area: 0.00884 m ²
Frame: Yes	Distance: 25 mm
Spark Igniter: Yes	Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0093-5	01/09/03	71	408	387	210	80.6	157	275	242	380
0363-6	02/05/03	60	398	415	175	69.8	176	296	218	405
Average		66	403	401	193	75.2	167	285	230	393

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
51.7	14.3	37.6	72.7	14.8	19.0	6.51	5	3153	3158	741
40.0	8.8	31.0	77.5	17.5	19.9	5.06	5	2348	2353	670
45.9	11.6	34.3	75.1	16.2	19.4	5.79	5	2751	2756	705

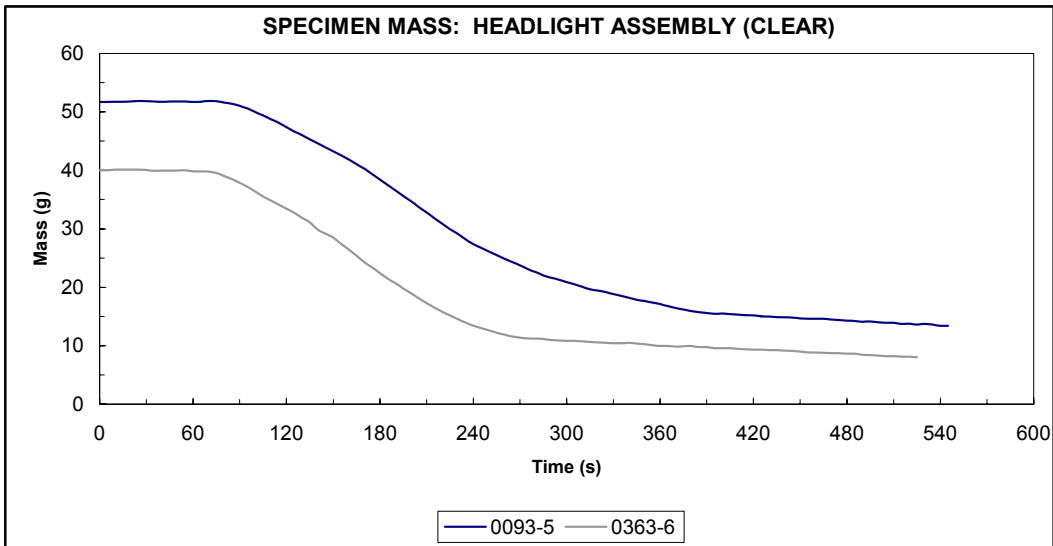
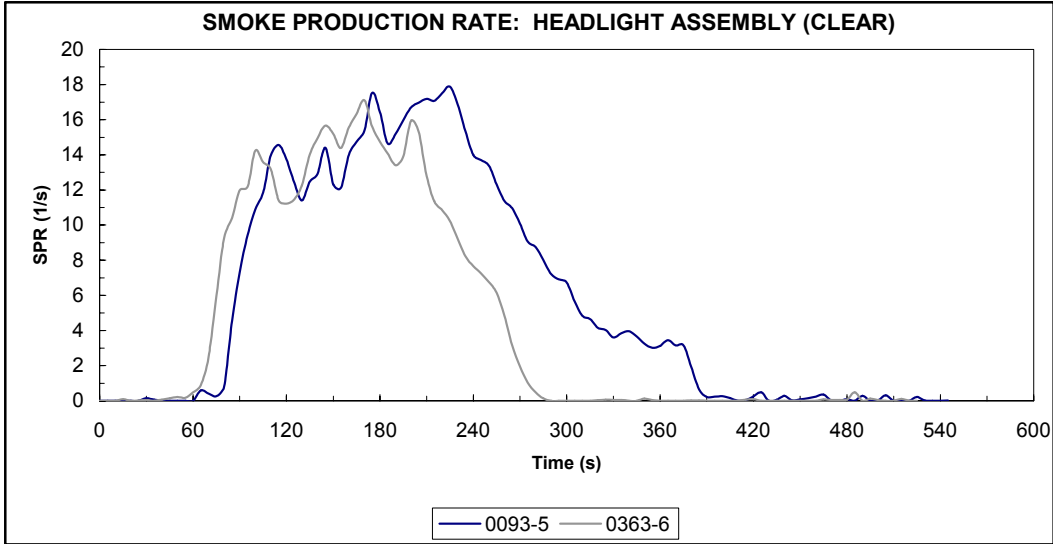


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Headlight Assembly (Clear)
Heat Flux: 50 kW/m²

(Page 2)



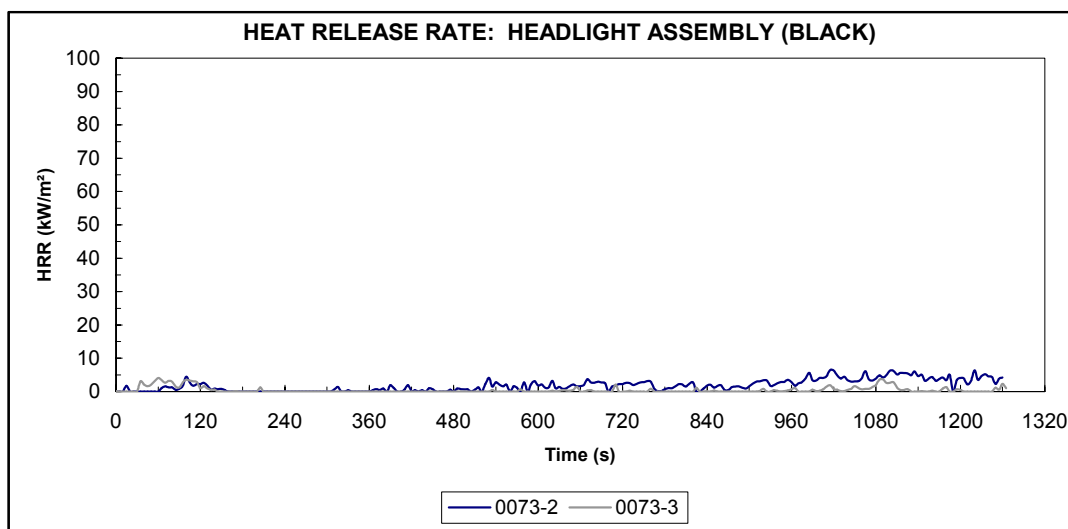
Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make:	Dodge	Material ID:	Headlight Assembly (Black)
Vehicle Model:	1996 Caravan	Heat Flux:	20 kW/m ²
Orientation:	Horizontal	Sample Area:	0.00884 m ²
Frame:	Yes	Distance:	25 mm
Spark Igniter:	Yes	Operator:	J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0073-2	01/07/03	No Ignition		6	1015	2.3	0	1	1	6
0073-3	01/07/03	No Ignition		4	60	0.5	1	1	1	3
Average		No Ignition		5	538	1.4	1	1	1	4

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
32.8	32.3	0.5	1.5	0.0	42.1	0.17	212	N/A	212	3839
34.9	34.2	0.7	2.0	0.1	6.9	0.08	99	N/A	99	1247
33.9	33.3	0.6	1.7	0.1	24.5	0.12	155	N/A	155	2543

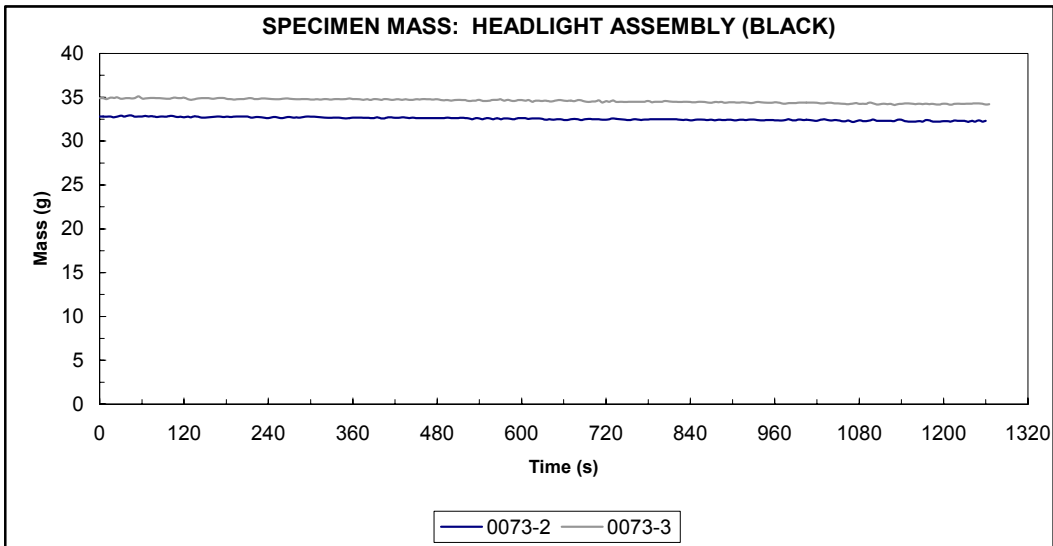
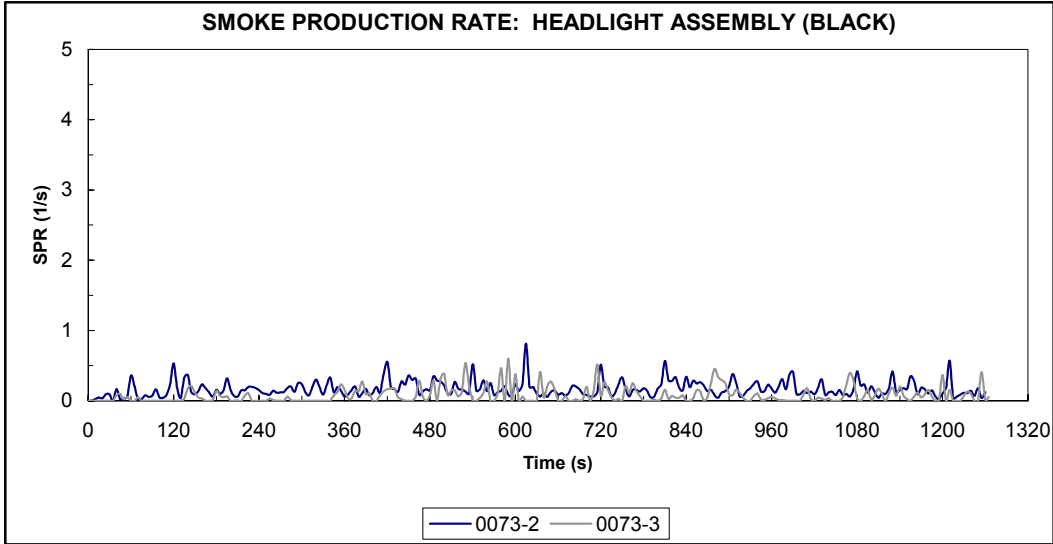


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Headlight Assembly (Black)
Heat Flux: 20 kW/m²

(Page 2)



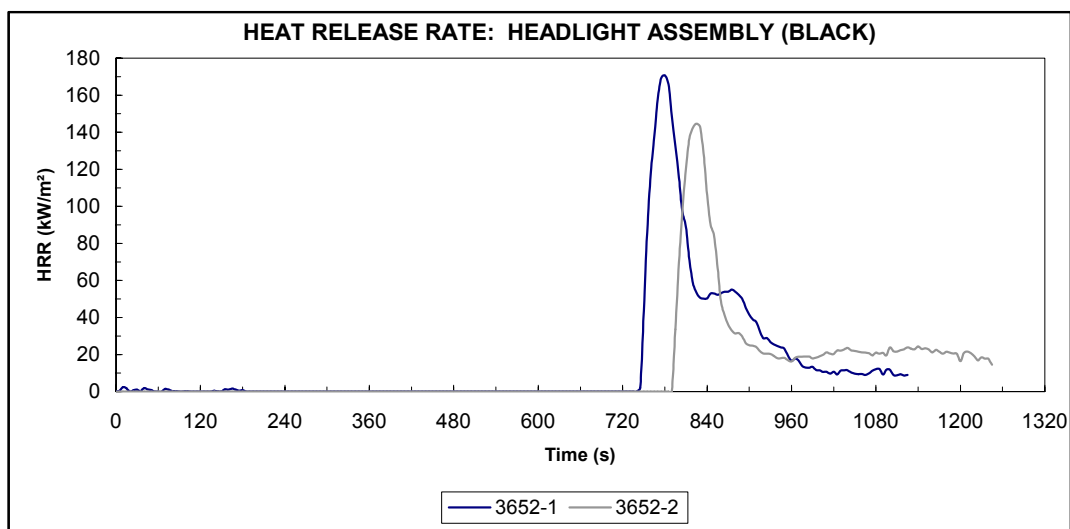
Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge	Material ID: Headlight Assembly (Black)
Vehicle Model: 1996 Caravan	Heat Flux: 35 kW/m ²
Orientation: Horizontal	Sample Area: 0.00884 m ²
Frame: Yes	Distance: 25 mm
Spark Igniter: Yes	Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
3652-1	12/31/02	747	311	171	780	15.7	125	76	52	158
3652-2	12/31/02	786	395	145	825	14.1	97	53	40	135
Average		766	353	158	803	14.9	111	65	46	146

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
36.9	11.5	7.8	21.1	3.3	17.8	2.18	1925	392	2317	445
30.8	7.2	7.3	23.8	2.1	17.0	2.26	2338	338	2676	407
33.9	9.4	7.6	22.5	2.7	17.4	2.22	2131	365	2496	426

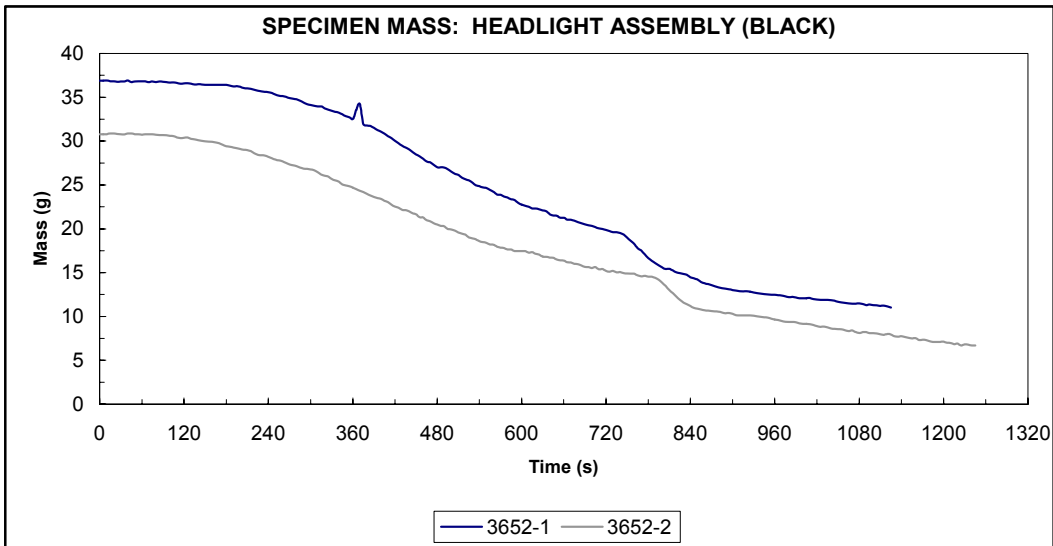
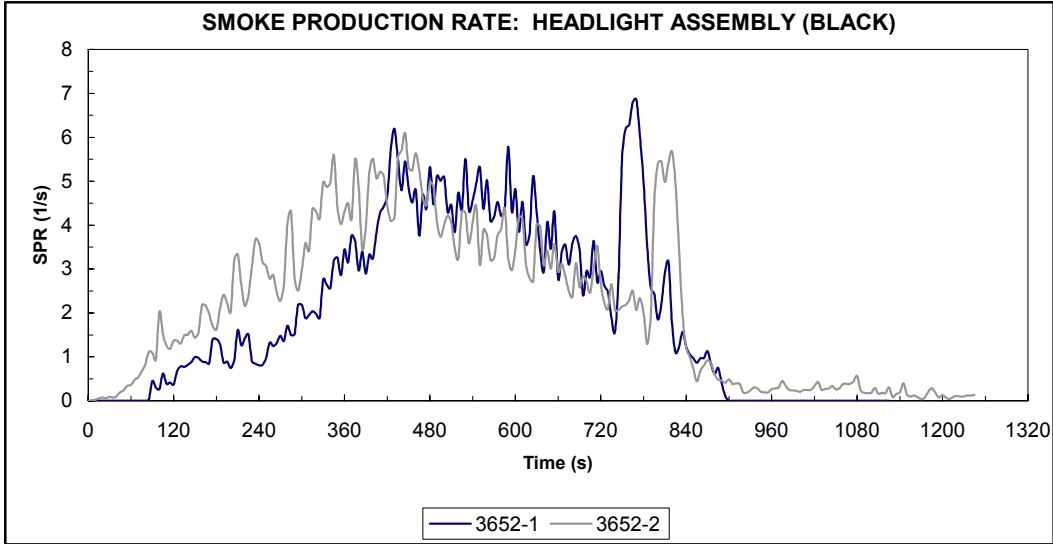


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Headlight Assembly (Black)
Heat Flux: 35 kW/m²

(Page 2)



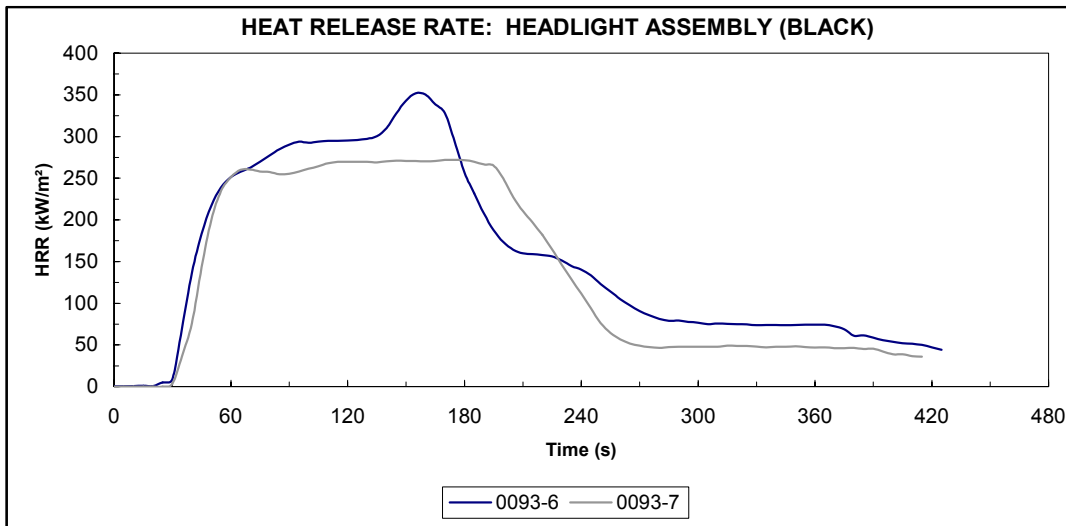
Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge	Material ID: Headlight Assembly (Black)
Vehicle Model: 1996 Caravan	Heat Flux: 50 kW/m ²
Orientation: Horizontal	Sample Area: 0.00884 m ²
Frame: Yes	Distance: 25 mm
Spark Igniter: Yes	Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0093-6	01/09/03	31	327	352	155	61.7	217	260	198	338
0093-7	01/09/03	33	300	272	175	53.6	216	247	179	271
Average		32	314	312	165	57.6	217	253	188	305

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
30.6	3.3	27.2	88.9	12.6	20.1	5.78	8	2101	2109	683
30.1	4.9	25.4	84.3	13.9	18.7	6.58	13	2226	2238	776
30.4	4.1	26.3	86.6	13.3	19.4	6.18	10	2164	2173	729

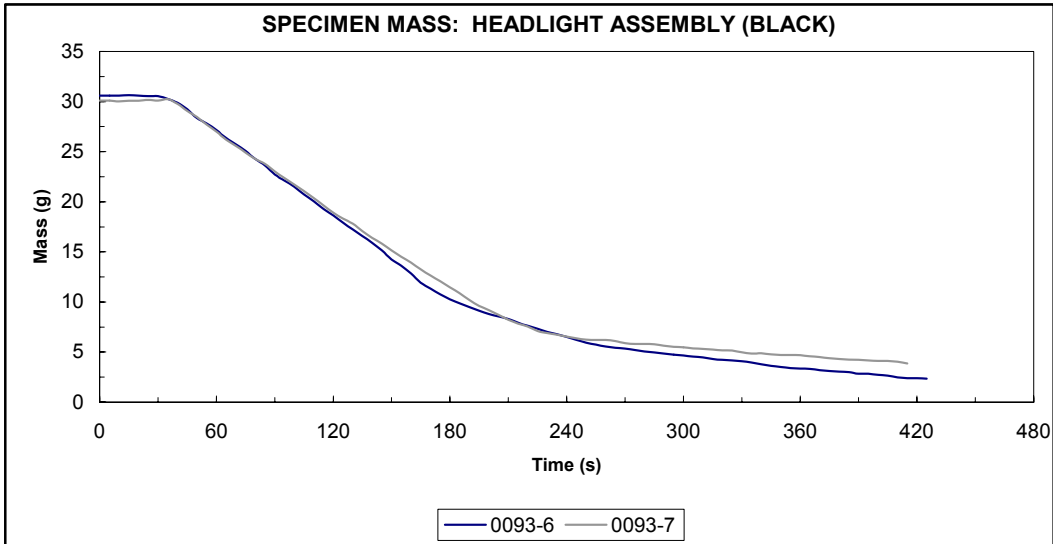
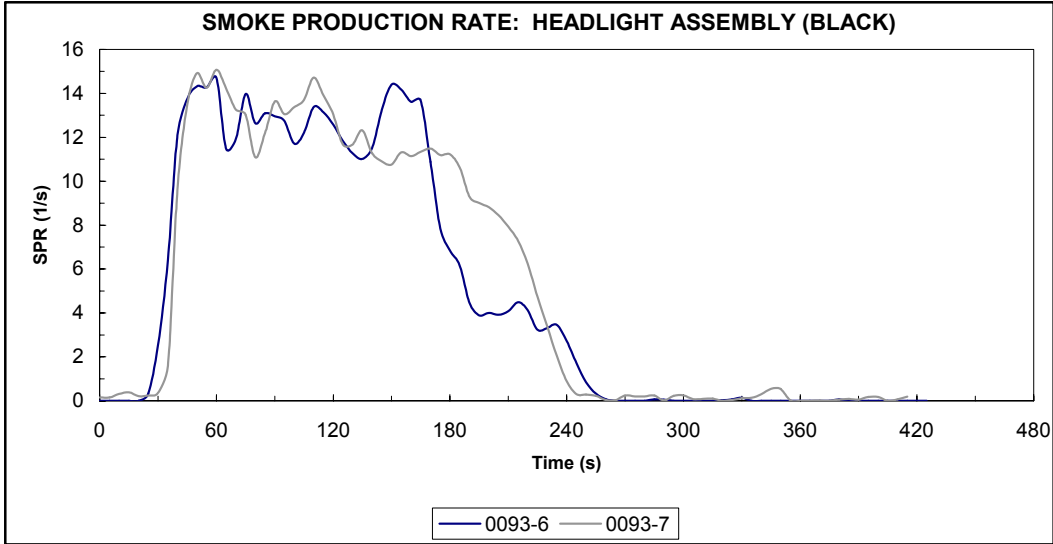


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Headlight Assembly (Black)
Heat Flux: 50 kW/m²

(Page 2)



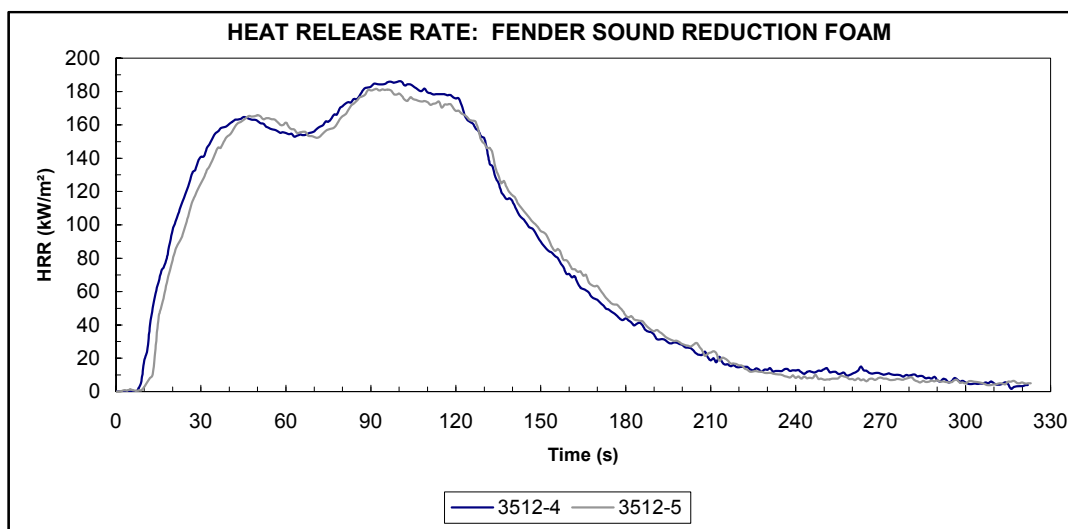
Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

<i>Vehicle Make:</i> Dodge	<i>Material ID:</i> Fender Sound Reduction Foam
<i>Vehicle Model:</i> 1996 Caravan	<i>Heat Flux:</i> 20 kW/m ²
<i>Orientation:</i> Horizontal	<i>Sample Area:</i> 0.00884 m ²
<i>Frame:</i> Yes	<i>Distance:</i> 25 mm
<i>Spark Igniter:</i> Yes	<i>Operator:</i> J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
3512-4	12/17/02	3	268	186	100	24.5	117	127	82	182
3512-5	12/17/02	4	267	182	92	24.0	112	125	80	177
<i>Average</i>		4	268	184	96	24.3	114	126	81	180

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
16.7	7.7	9.1	54.6	6.4	23.8	3.19	0	868	868	842
15.5	6.9	8.5	55.0	6.4	24.9	3.19	0	868	868	901
16.1	7.3	8.8	54.8	6.4	24.4	3.19	0	868	868	871

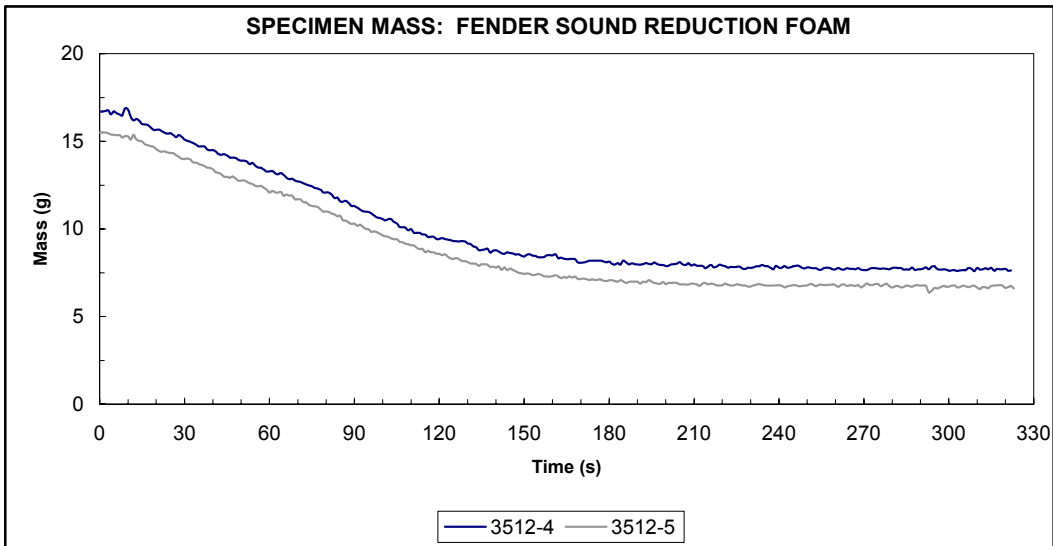
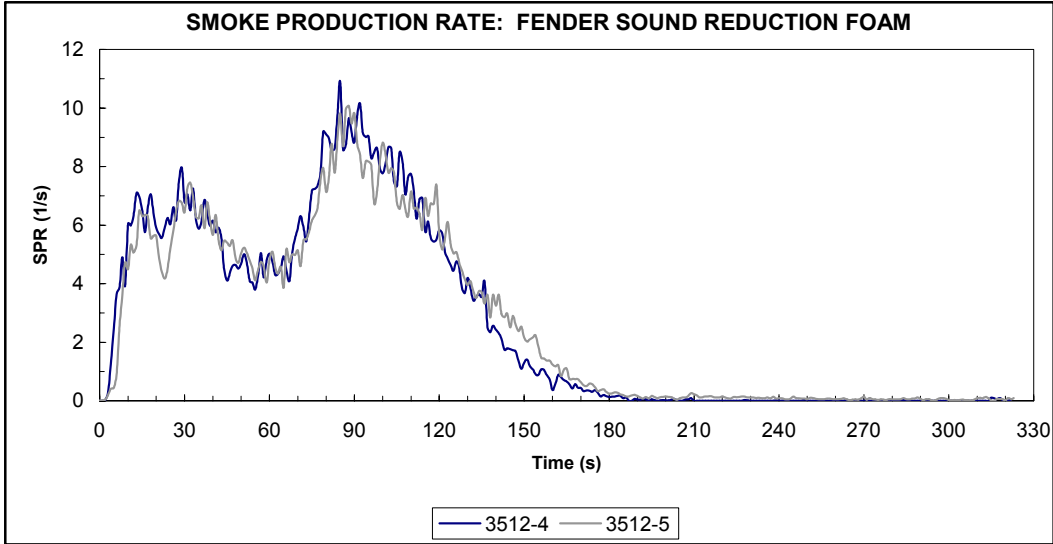


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Fender Sound Reduction Foam
Heat Flux: 20 kW/m²

(Page 2)



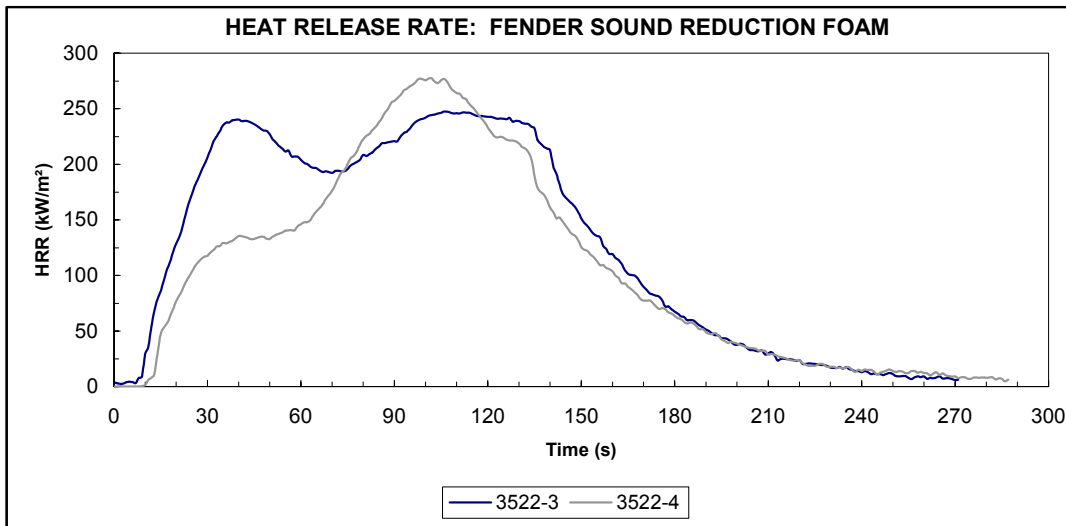
Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make:	Dodge	Material ID:	Fender Sound Reduction Foam
Vehicle Model:	1996 Caravan	Heat Flux:	35 kW/m ²
Orientation:	Horizontal	Sample Area:	0.00884 m ²
Frame:	Yes	Distance:	25 mm
Spark Igniter:	Yes	Operator:	J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
3522-3	12/18/02	2	214	247	106	33.8	163	180	113	244
3522-4	12/18/02	2	230	277	102	29.5	95	154	98	266
<i>Average</i>		2	222	262	104	31.7	129	167	106	255

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
18.9	8.0	10.9	57.6	22.9	27.5	6.29	3	1362	1365	1106
16.6	6.5	10.0	60.4	7.1	26.0	4.69	0	1093	1093	964
17.8	7.3	10.5	59.0	15.0	26.8	5.49	2	1228	1229	1035

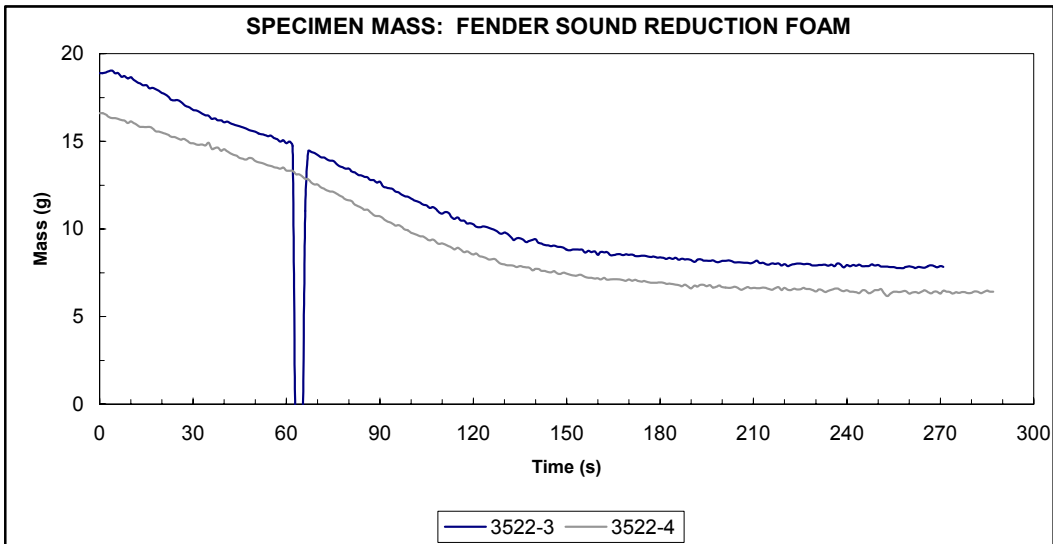
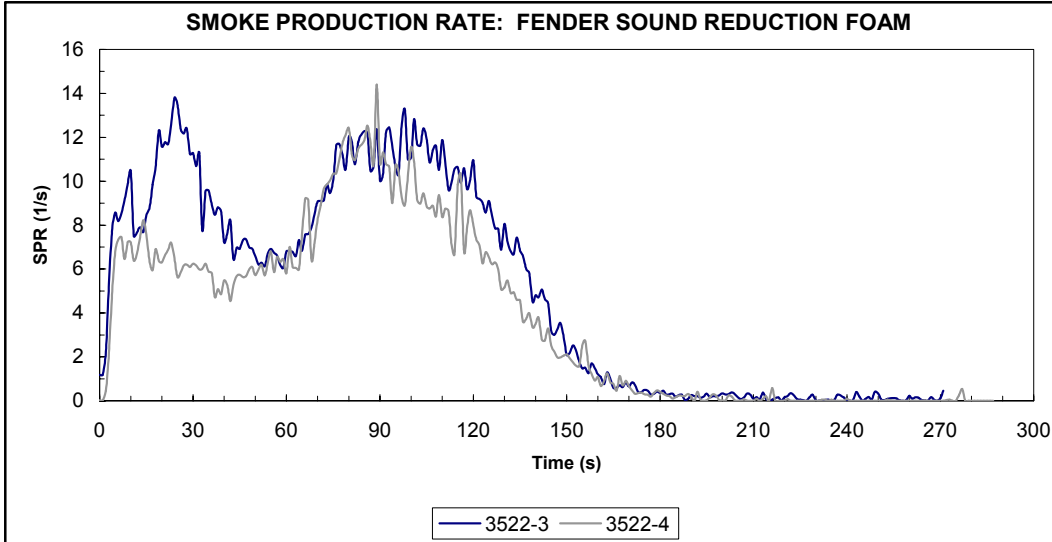


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Fender Sound Reduction Foam
Heat Flux: 35 kW/m²

(Page 2)



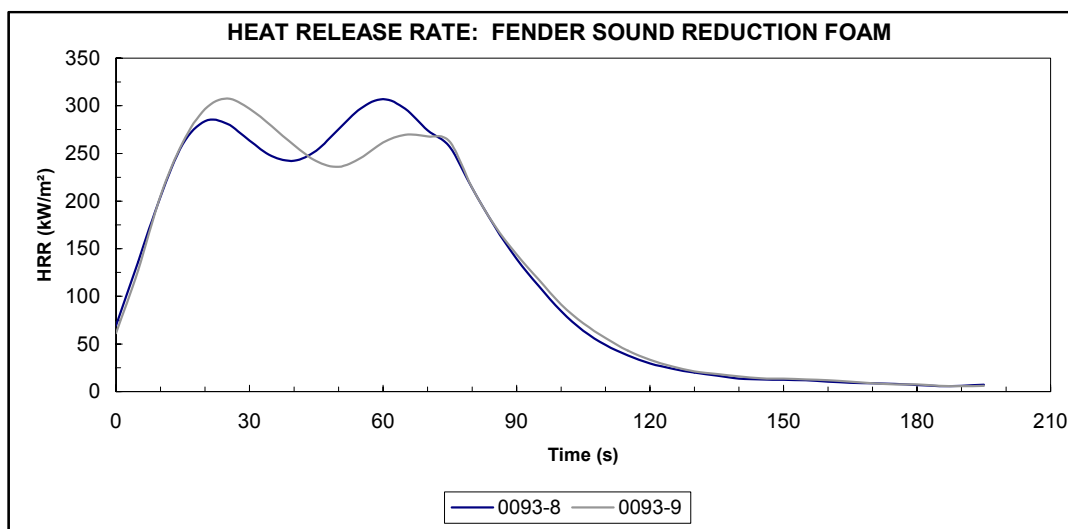
Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge	Material ID: Fender Sound Reduction Foam
Vehicle Model: 1996 Caravan	Heat Flux: 50 kW/m ²
Orientation: Horizontal	Sample Area: 0.00884 m ²
Frame: Yes	Distance: 25 mm
Spark Igniter: Yes	Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0093-8	01/09/03	1	124	307	60	24.1	244	134	81	284
0093-9	01/09/03	1	125	308	25	24.0	243	134	80	282
Average		1	124	307	43	24.1	244	134	80	283

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
13.4	5.7	7.7	57.2	9.2	27.9	8.14	0	1026	1026	1184
13.2	5.5	7.7	58.3	9.3	27.6	7.89	0	992	992	1139
13.3	5.6	7.7	57.8	9.3	27.7	8.02	0	1009	1009	1162

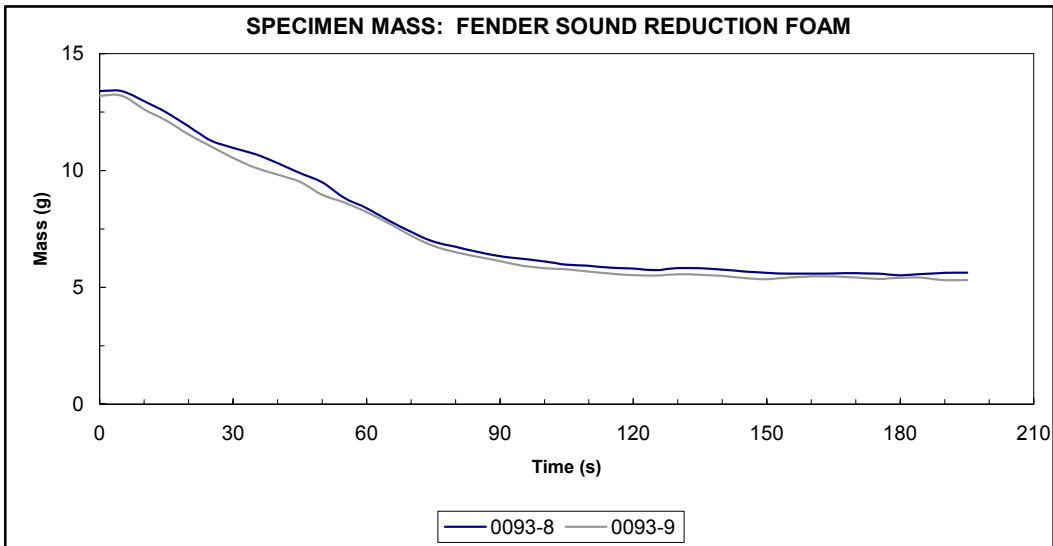
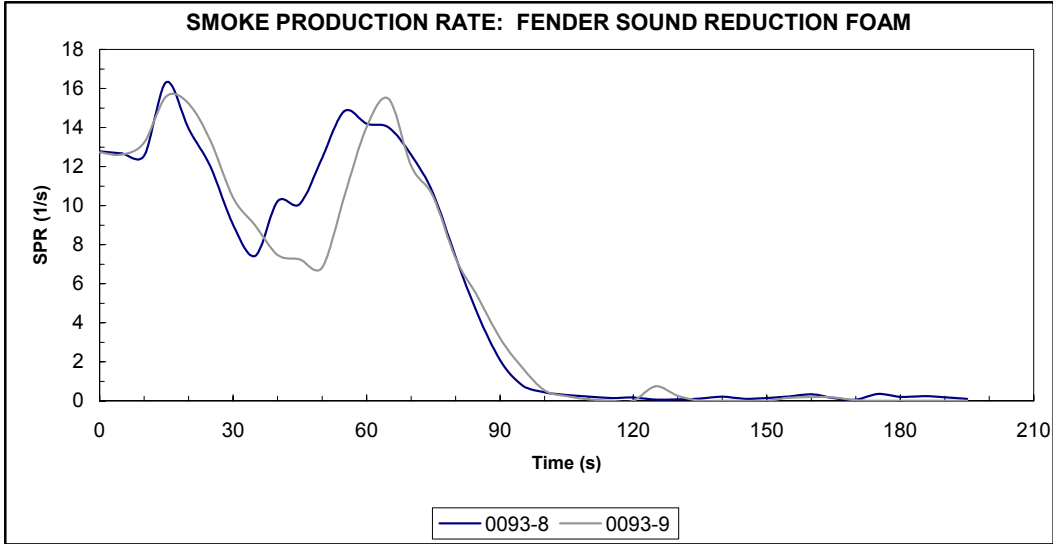


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Fender Sound Reduction Foam
Heat Flux: 50 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
 Vehicle Model: 1996 Caravan

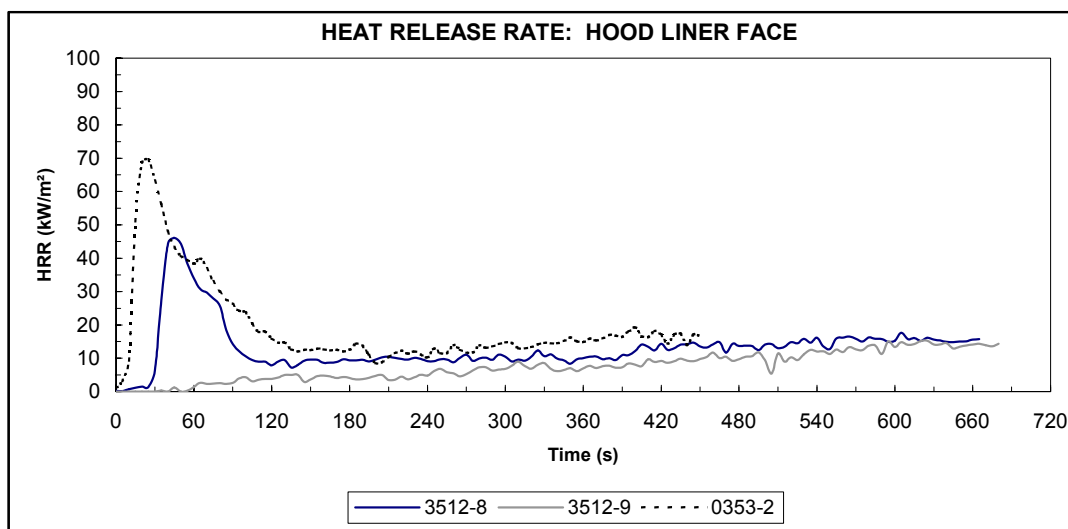
Material ID: Hood Liner Face
 Heat Flux: 20 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
3512-8	12/17/02	21	26	46	45	0.5	11	4	2	39
3512-9	12/17/02	No Ignition		15	625	5.1	0	3	4	15
0353-2	02/04/03	16	94	70	25	3.8	49	21	13	59
Average		18	60	44	232	3.1	20	9	6	38

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
16.8	15.5	1.1	6.5	5.0	4.1	0.65	4	27	31	214
15.7	4.6	11.1	70.5	2.1	4.1	0.88	599	N/A	599	479
17.6	14.2	3.2	18.2	3.6	10.5	0.79	14	72	86	197
16.7	11.4	5.1	31.7	3.6	6.3	0.77	206	50	239	297

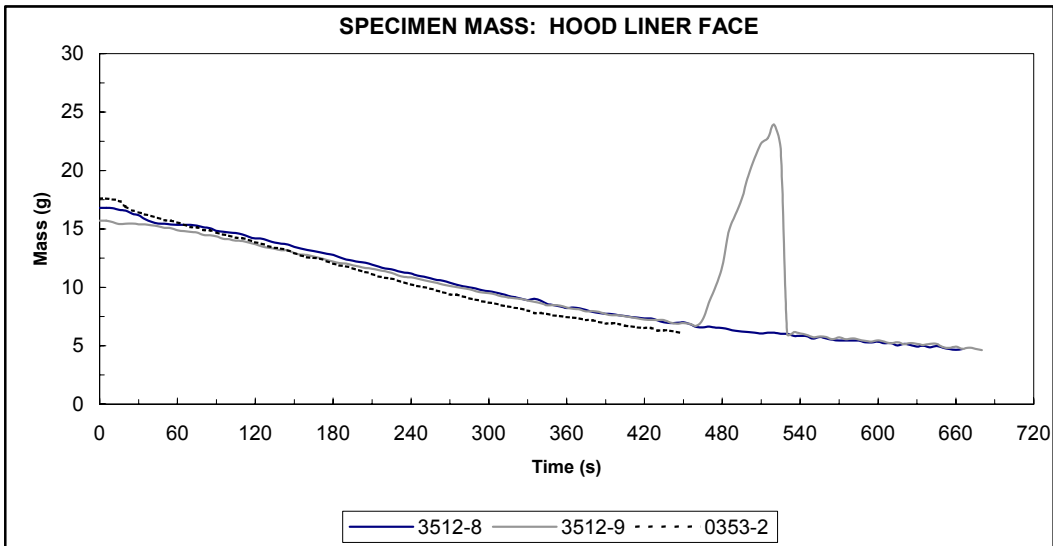
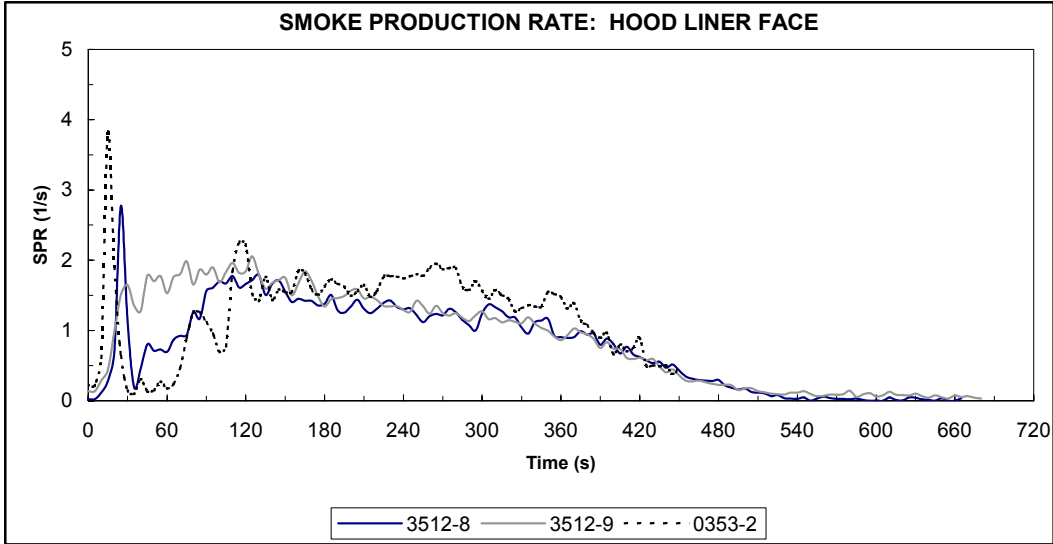


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Hood Liner Face
Heat Flux: 20 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
 Vehicle Model: 1996 Caravan

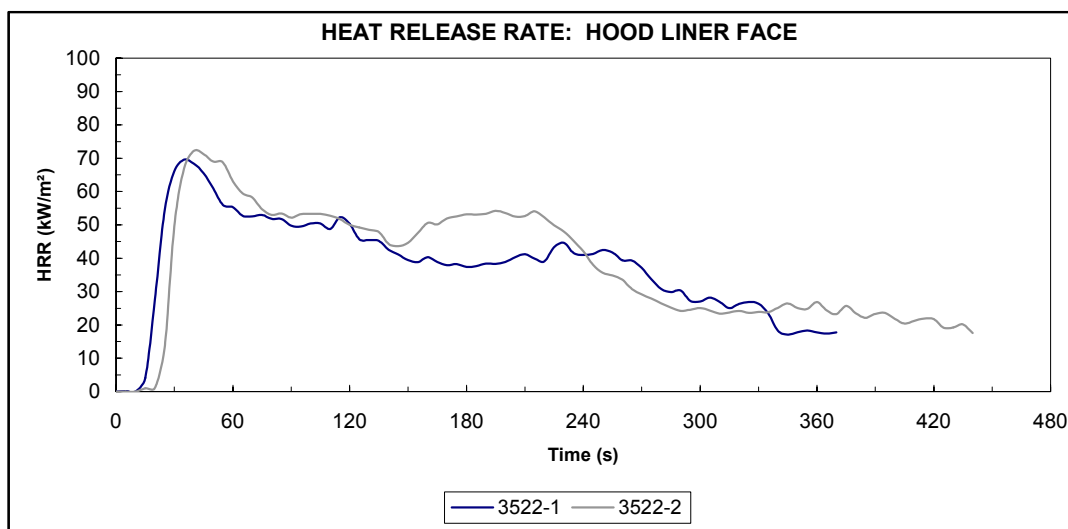
Material ID: Hood Liner Face
 Heat Flux: 35 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
3522-1	12/18/02	4	303	70	35	12.8	46	46	43	64
3522-2	12/18/02	8	345	72	40	14.6	47	50	45	68
Average		6	324	71	38	13.7	47	48	44	66

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
15.8	5.8	10.0	63.3	4.2	11.3	0.16	17	22	39	19
15.7	4.5	11.0	70.0	4.2	11.8	0.30	27	79	105	63
15.8	5.2	10.5	66.7	4.2	11.5	0.23	22	51	72	41

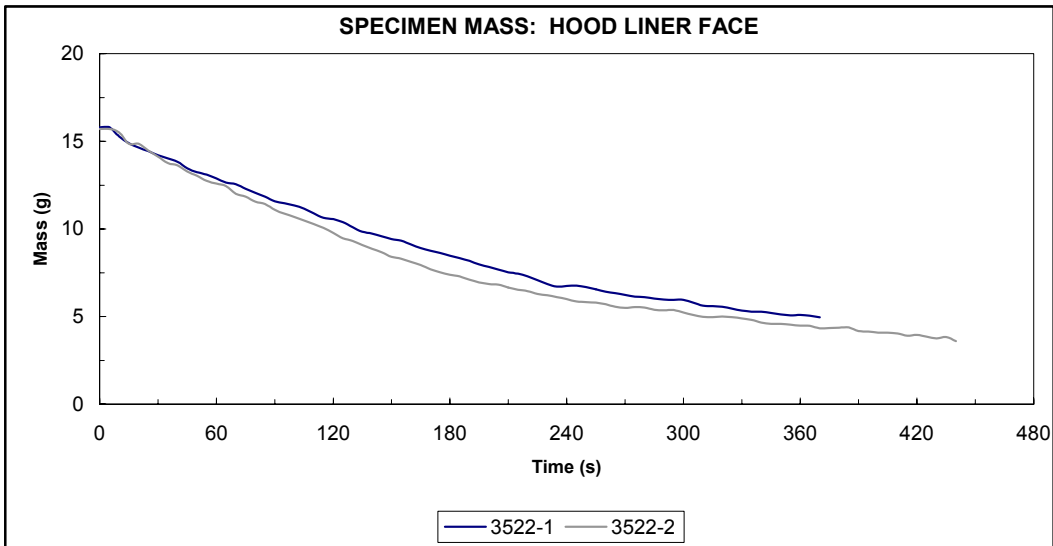
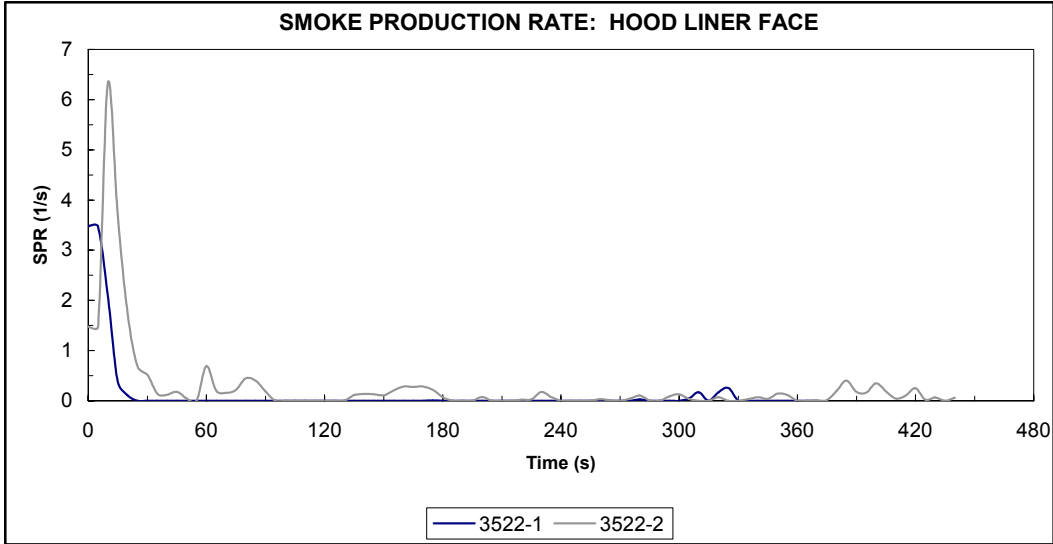


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Hood Liner Face
Heat Flux: 35 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
 Vehicle Model: 1996 Caravan

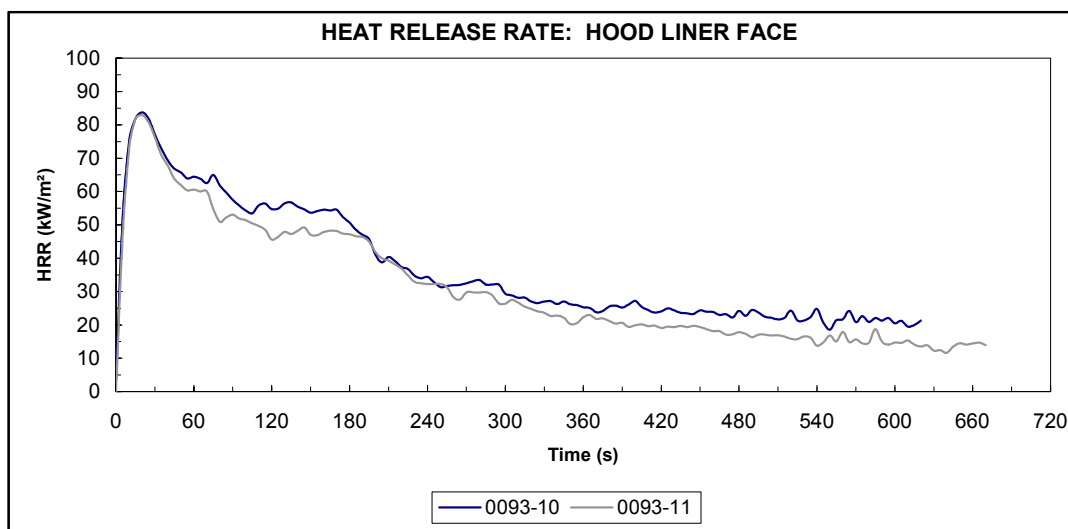
Material ID: Hood Liner Face
 Heat Flux: 50 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0093-10	01/09/03	4	566	84	20	21.7	72	61	51	78
0093-11	01/09/03	4	601	83	20	19.8	69	56	47	77
Average		4	584	83	20	20.8	70	59	49	78

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
15.4	3.3	12.1	78.7	2.7	15.8	0.17	31	53	84	39
15.4	2.9	12.5	81.4	2.7	14.0	0.36	39	162	200	114
15.4	3.1	12.3	80.0	2.7	14.9	0.27	35	108	142	76

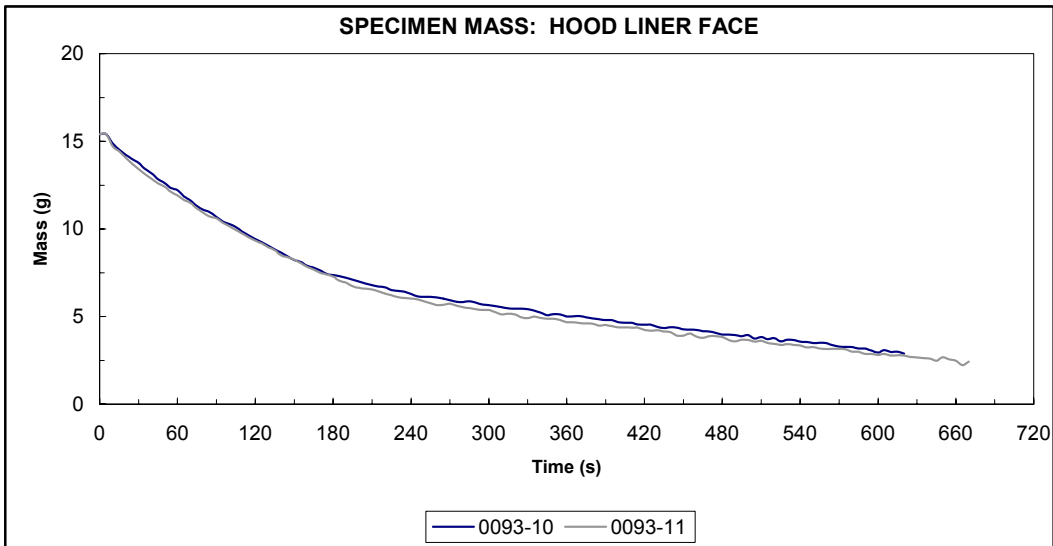
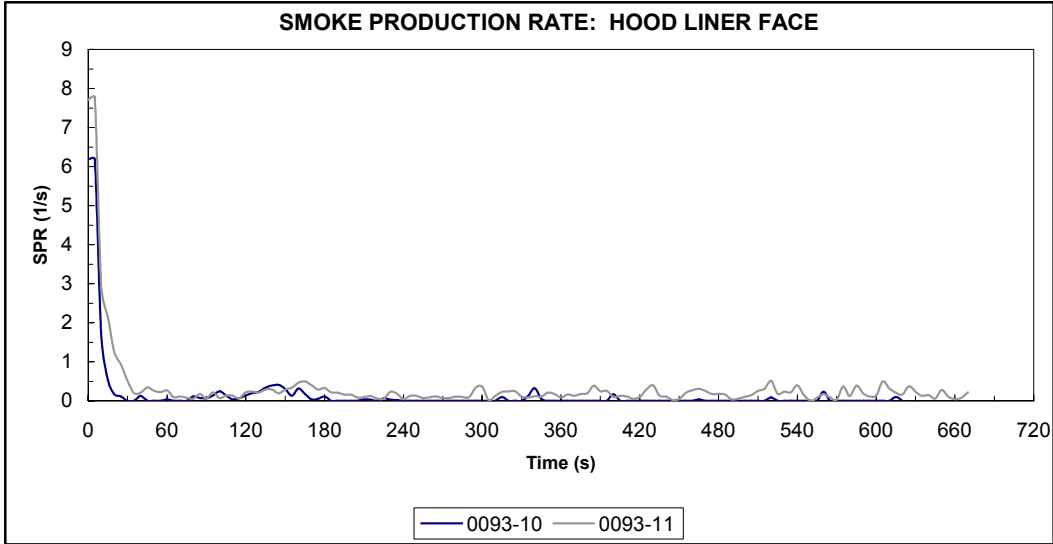


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Hood Liner Face
Heat Flux: 50 kW/m²

(Page 2)



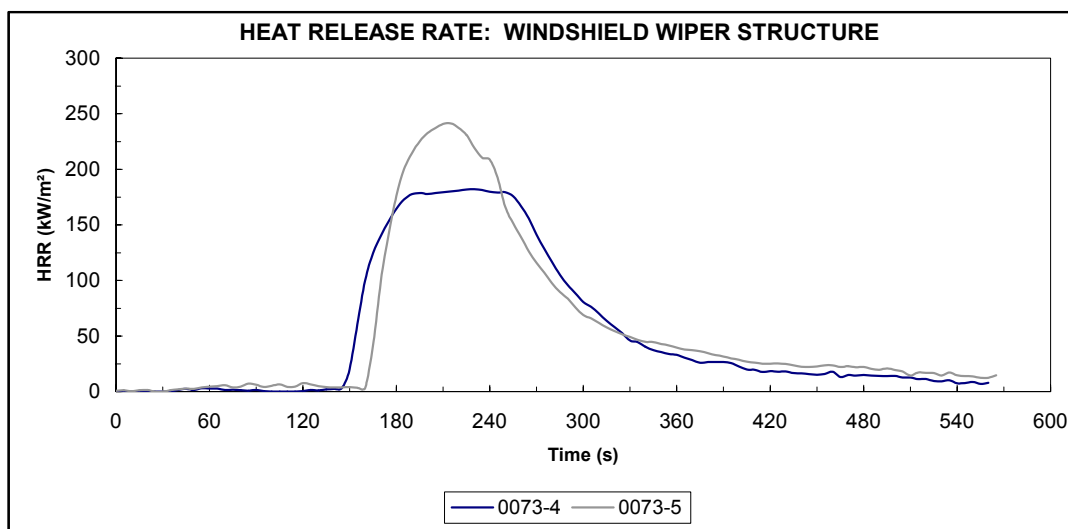
Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge	Material ID: Windshield Wiper Structure
Vehicle Model: 1996 Caravan	Heat Flux: 20 kW/m ²
Orientation: Horizontal	Sample Area: 0.00884 m ²
Frame: Yes	Distance: 25 mm
Spark Igniter: Yes	Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0073-4	01/07/03	146	342	182	230	28.1	130	134	91	181
0073-5	01/07/03	159	340	241	215	29.5	181	138	95	236
Average		152	341	212	223	28.8	156	136	93	209

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
51.6	39.3	12.3	23.8	6.4	20.2	2.07	15	1011	1025	726
47.8	35.5	12.0	25.2	7.0	21.6	1.87	11	935	946	687
49.7	37.4	12.2	24.5	6.7	20.9	1.97	13	973	985	706

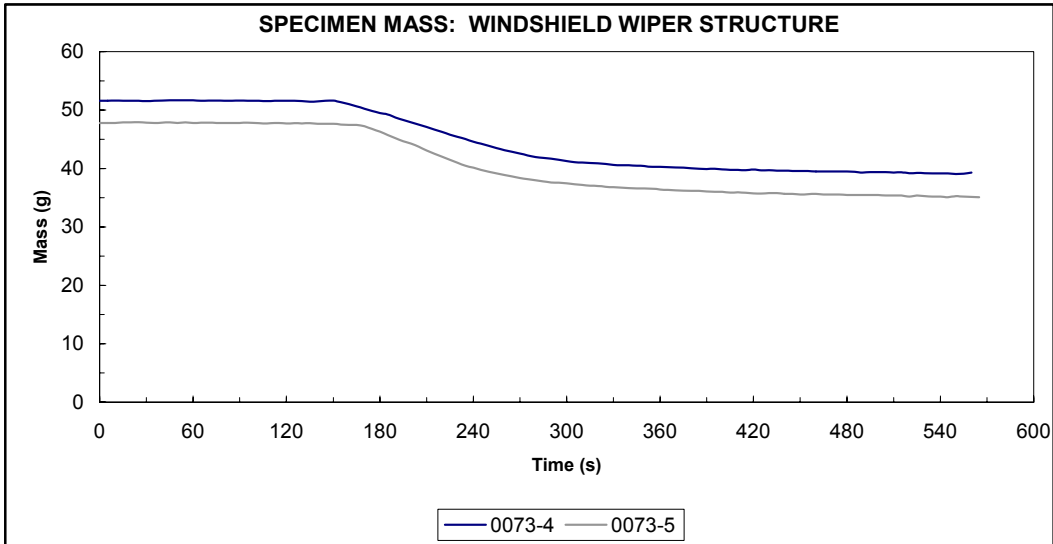
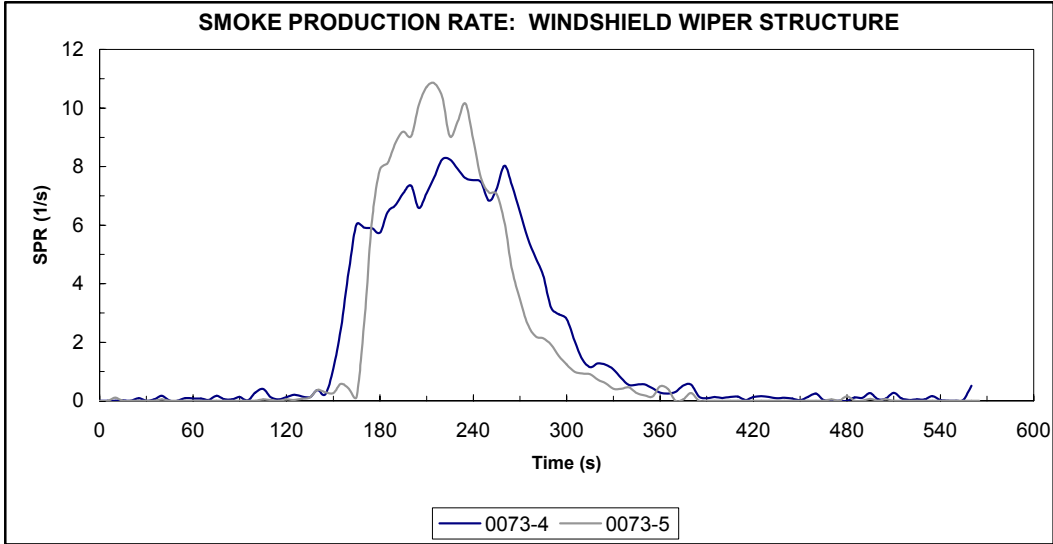


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Windshield Wiper Structure
Heat Flux: 20 kW/m²

(Page 2)



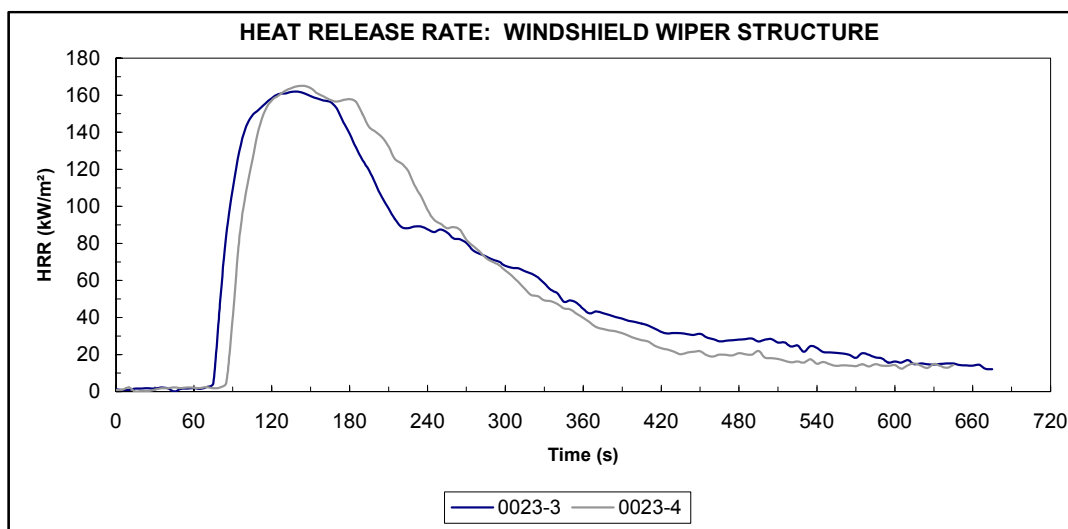
Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make:	Dodge	Material ID:	Windshield Wiper Structure
Vehicle Model:	1996 Caravan	Heat Flux:	35 kW/m ²
Orientation:	Horizontal	Sample Area:	0.00884 m ²
Frame:	Yes	Distance:	25 mm
Spark Igniter:	Yes	Operator:	J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0023-3	01/02/03	79	537	162	140	36.1	139	125	100	161
0023-4	01/02/03	86	493	165	145	33.9	128	130	100	163
<i>Average</i>		82	515	164	143	35.0	134	128	100	162

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
71.1	52.9	18.1	25.4	5.8	17.7	1.89	4	1168	1173	572
67.4	50.7	16.6	24.6	5.7	18.1	1.86	7	1080	1086	576
69.3	51.8	17.3	25.0	5.7	17.9	1.87	5	1124	1130	574

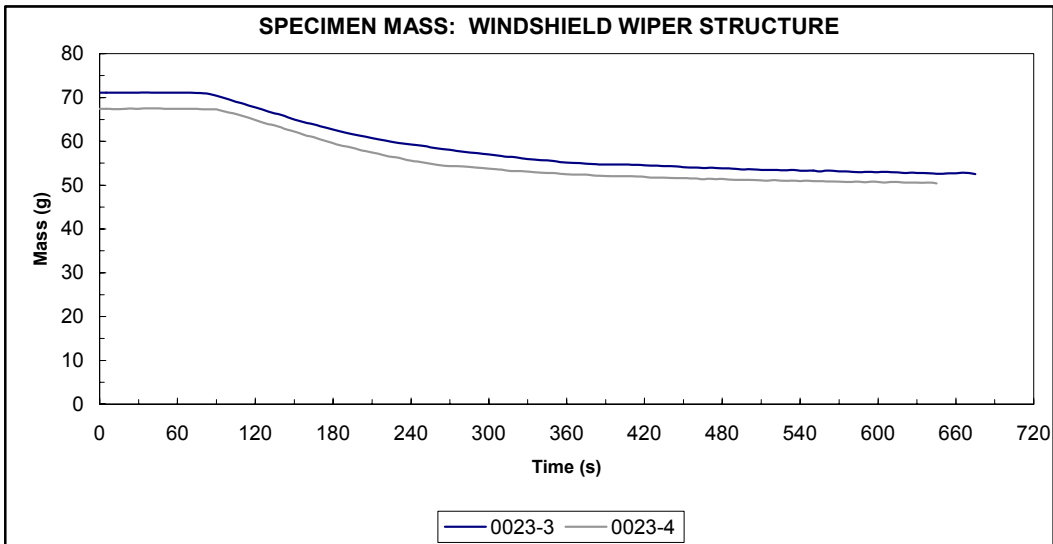
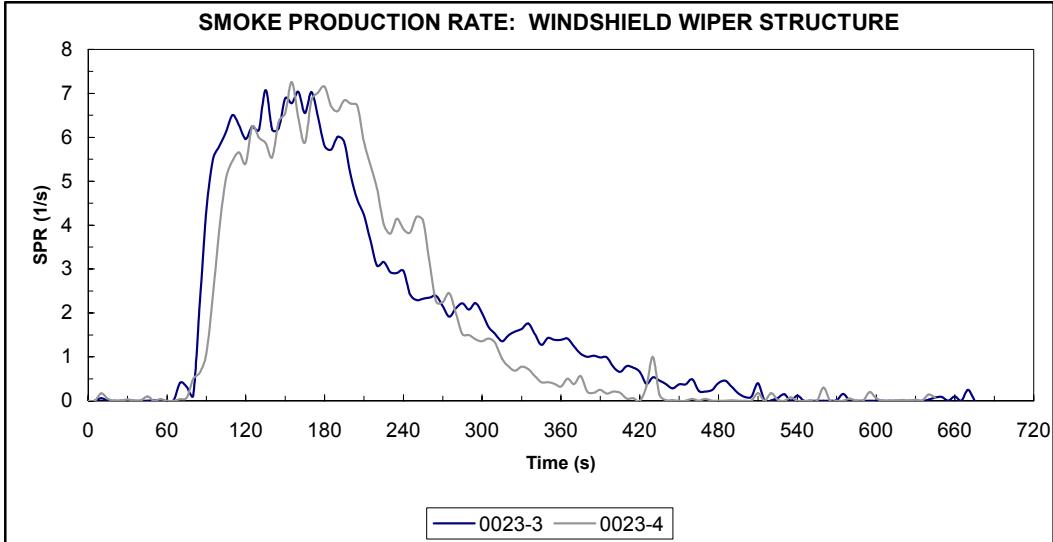


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Windshield Wiper Structure
Heat Flux: 35 kW/m²

(Page 2)



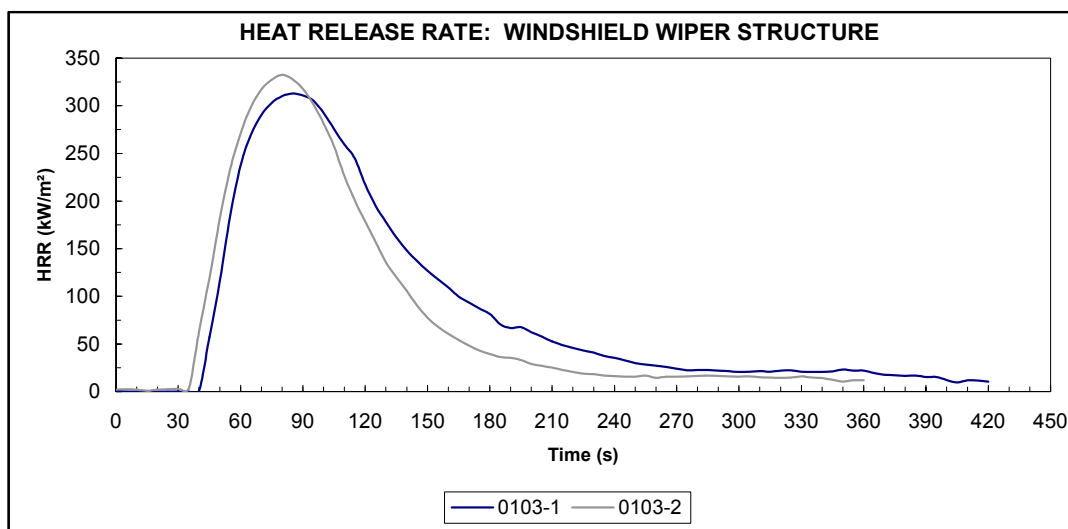
Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge	Material ID: Windshield Wiper Structure
Vehicle Model: 1996 Caravan	Heat Flux: 50 kW/m ²
Orientation: Horizontal	Sample Area: 0.00884 m ²
Frame: Yes	Distance: 25 mm
Spark Igniter: Yes	Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0103-1	01/10/03	49	300	313	85	32.7	273	165	109	306
0103-2	01/10/03	41	210	333	80	27.6	267	151	92	321
Average		45	255	323	83	30.2	270	158	101	313

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
53.0	39.0	13.7	25.9	8.6	21.1	3.34	19	1166	1185	752
47.3	35.4	11.7	24.7	11.1	20.9	4.05	14	1019	1033	772
50.2	37.2	12.7	25.3	9.8	21.0	3.70	17	1093	1109	762

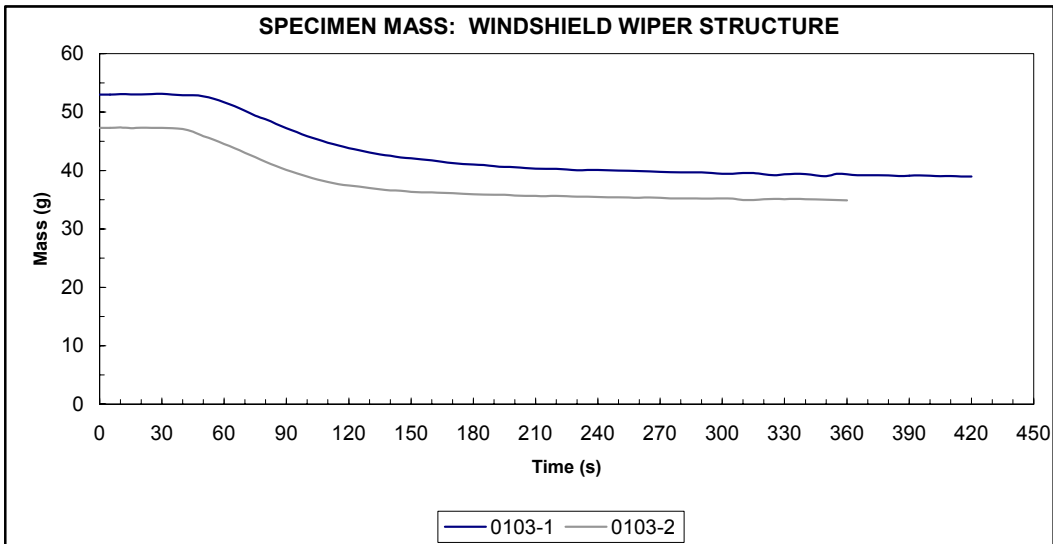
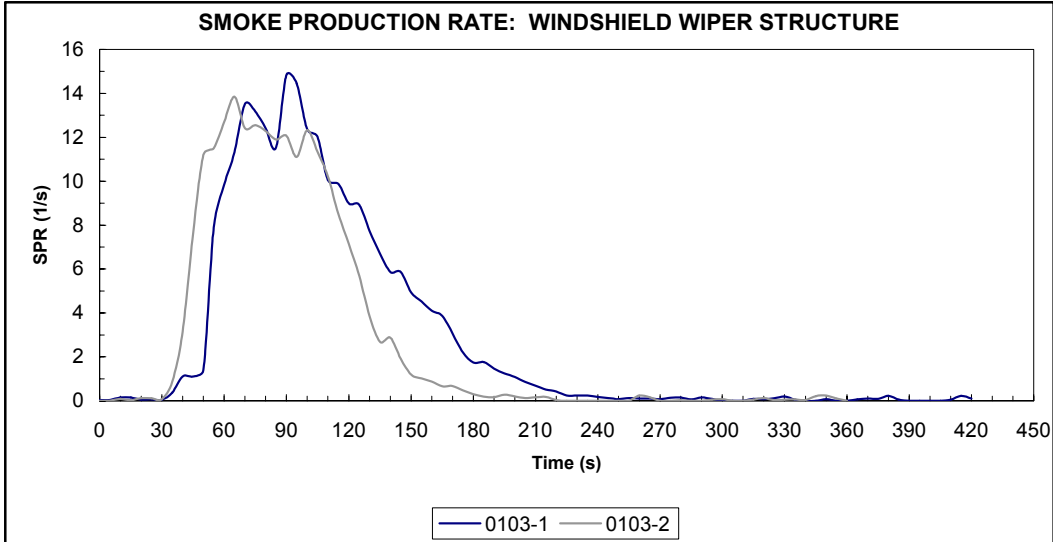


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: Windshield Wiper Structure
Heat Flux: 50 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
 Vehicle Model: 1997 Camaro

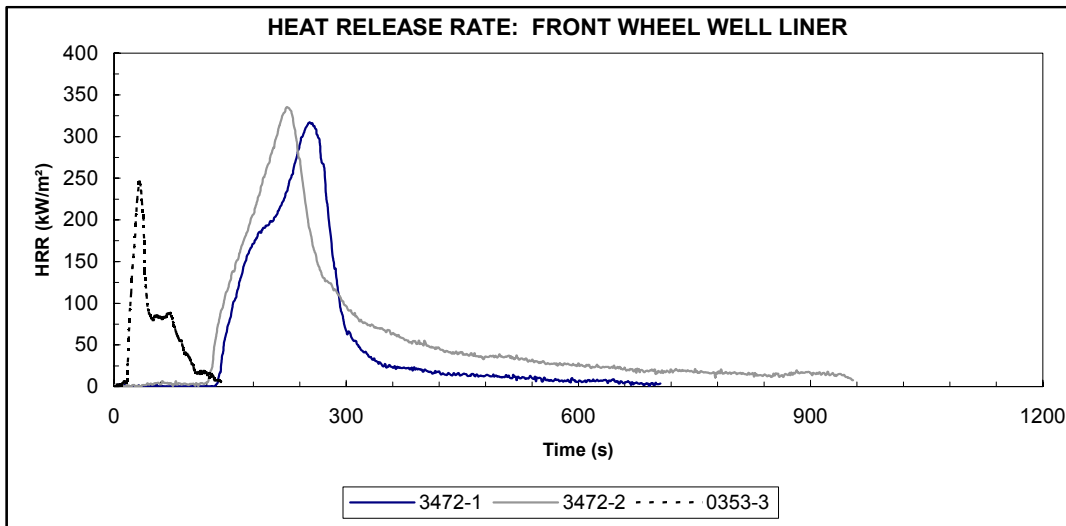
Material ID: Front Wheel Well Liner
 Heat Flux: 20 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
3472-1	12/13/02	121	528	317	253	37.3	81	175	117	304
3472-2	12/13/02	111	805	335	224	52.9	89	180	135	318
0353-3	02/04/03	88	538	246	33	43.2	138	143	119	238
<i>Average</i>		107	624	299	170	44.5	103	166	124	287

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
26.7	16.8	9.7	36.4	5.5	33.9	0.64	10	406	416	369
22.9	9.0	13.9	60.8	3.1	33.6	0.56	13	498	511	316
21.9	10.1	11.6	53.2	3.4	32.8	0.40	5	245	250	186
23.8	11.9	11.8	50.1	4.0	33.4	0.53	10	383	392	290

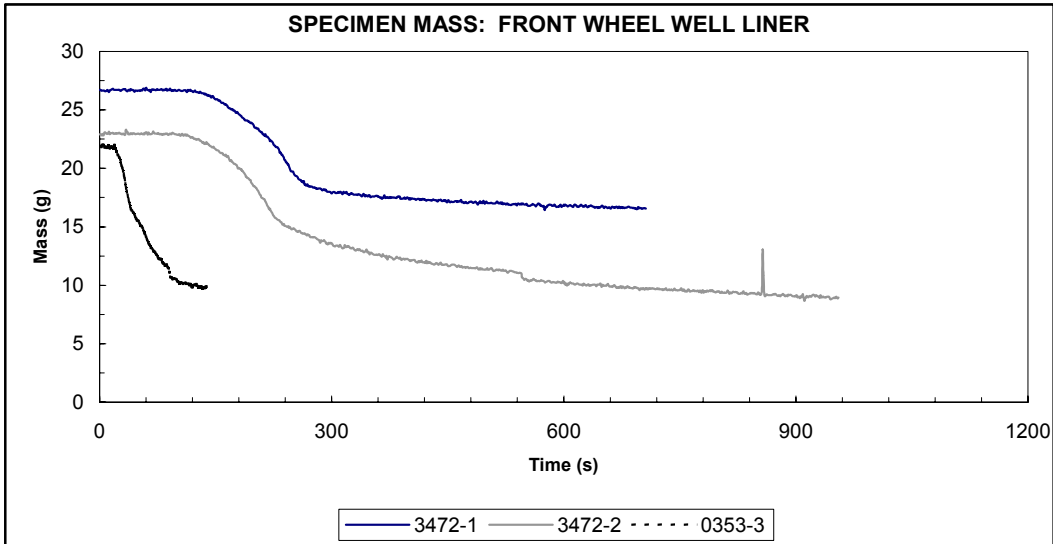
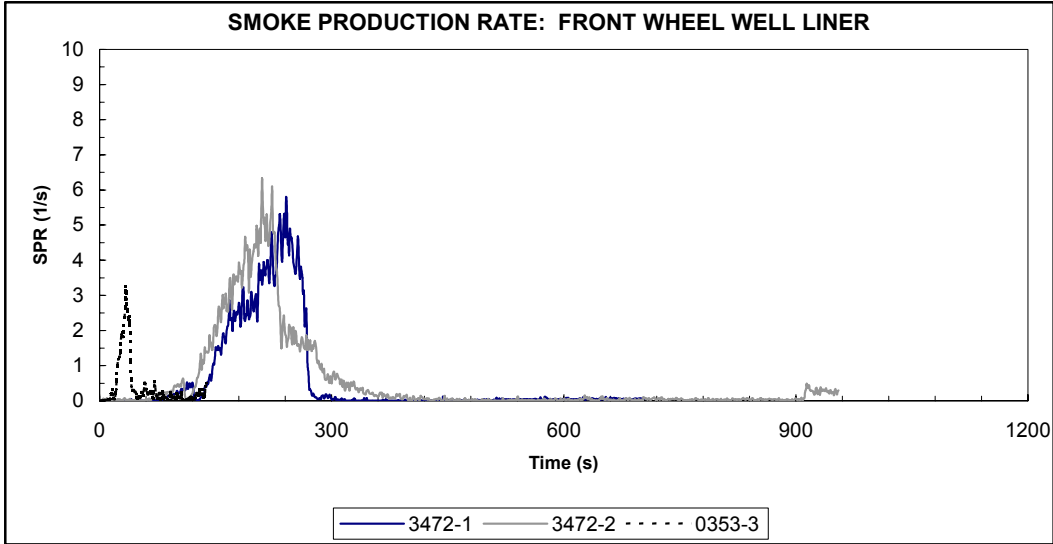


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
Vehicle Model: 1997 Camaro

Material ID: Front Wheel Well Liner
Heat Flux: 20 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
 Vehicle Model: 1997 Camaro

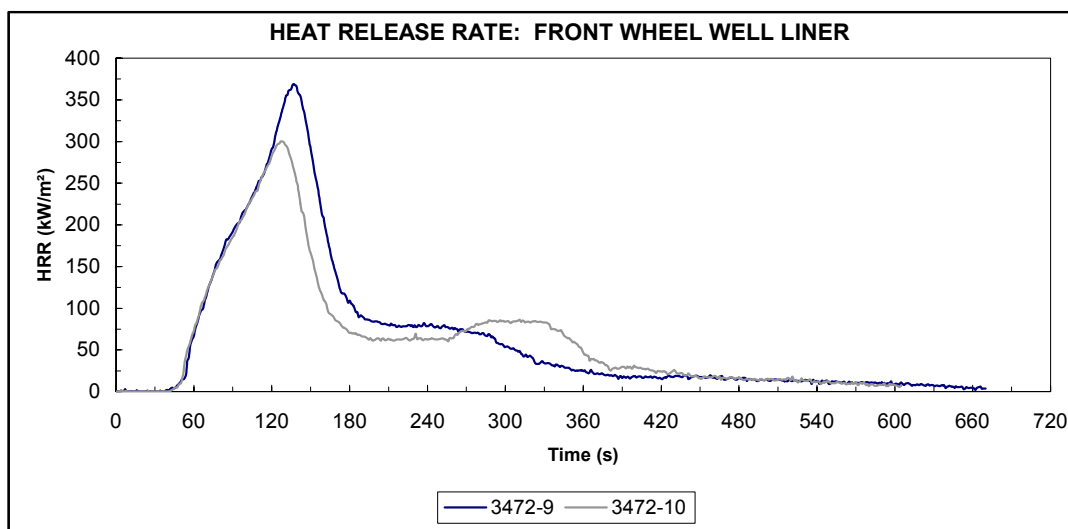
Material ID: Front Wheel Well Liner
 Heat Flux: 35 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
3472-9	12/13/02	37	597	369	137	42.5	99	168	126	338
3472-10	12/13/02	37	529	300	128	39.3	99	138	112	279
Average		37	563	335	133	40.9	99	153	119	308

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
25.2	11.1	14.5	57.6	4.8	25.9	0.64	2	405	407	247
24.5	9.5	15.1	61.8	4.3	23.0	0.82	3	459	462	268
24.9	10.3	14.8	59.7	4.6	24.4	0.73	2	432	434	257

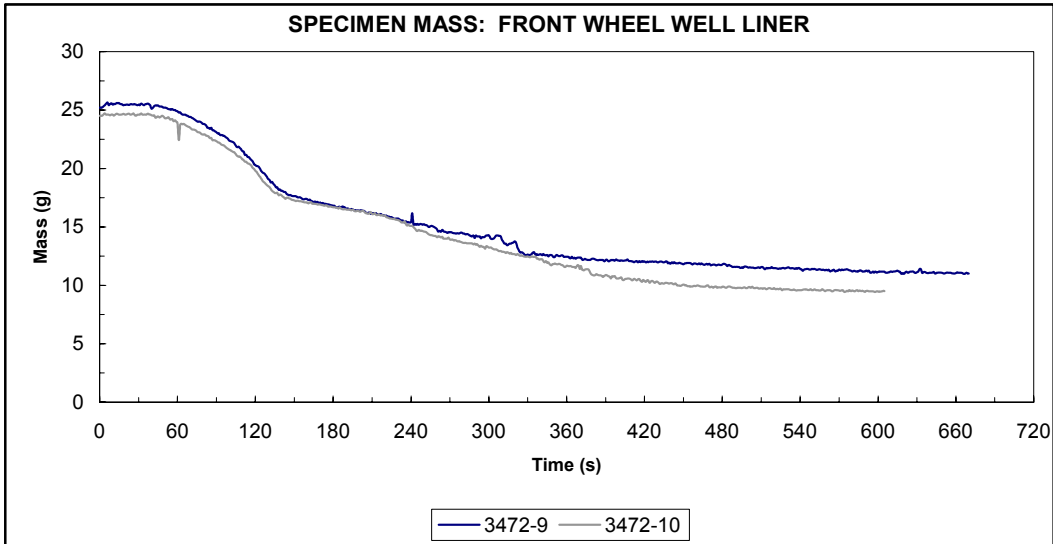
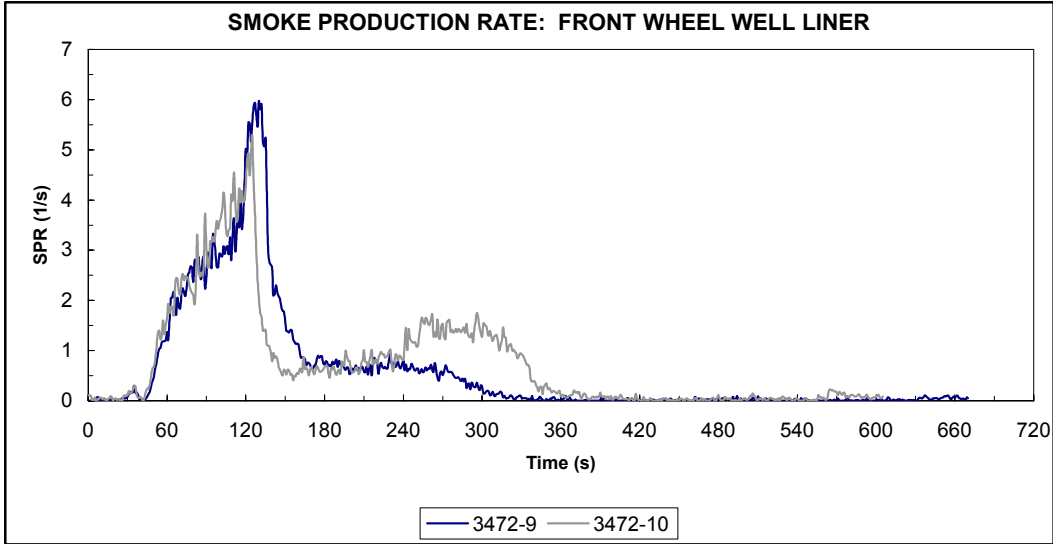


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
Vehicle Model: 1997 Camaro

Material ID: Front Wheel Well Liner
Heat Flux: 35 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
 Vehicle Model: 1997 Camaro

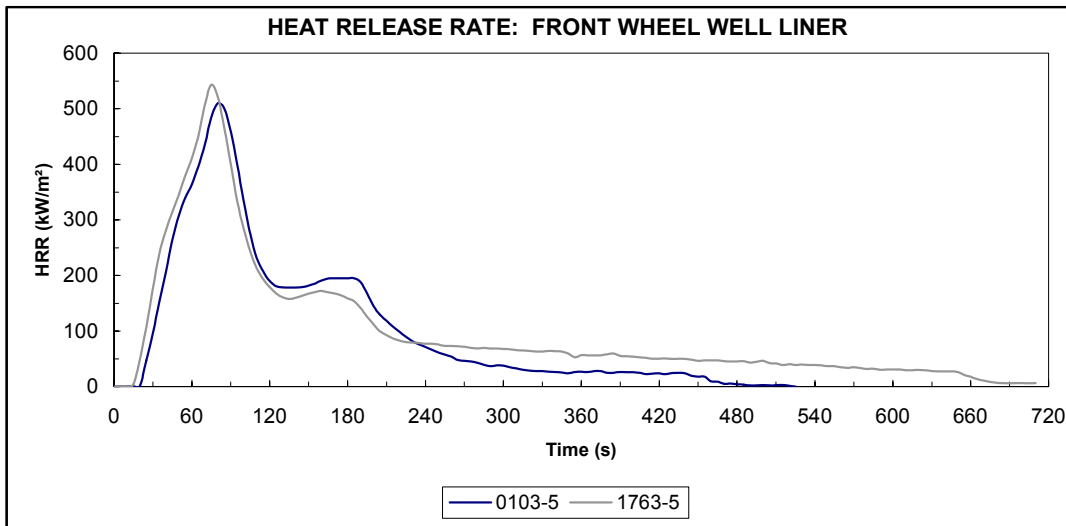
Material ID: Front Wheel Well Liner
 Heat Flux: 50 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0103-5	01/10/03	18	436	510	80	56.3	279	252	176	464
1763-5	06/25/03	19	628	543	75	68.9	337	252	181	482
Average		18	532	526	78	62.6	308	252	179	473

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
23.3	9.1	14.1	60.7	6.1	35.2	1.72	5	783	788	489
23.3	5.7	17.3	74.3	3.6	35.2	0.79	0	511	512	261
23.3	7.4	15.7	67.5	4.8	35.2	1.25	3	647	650	375

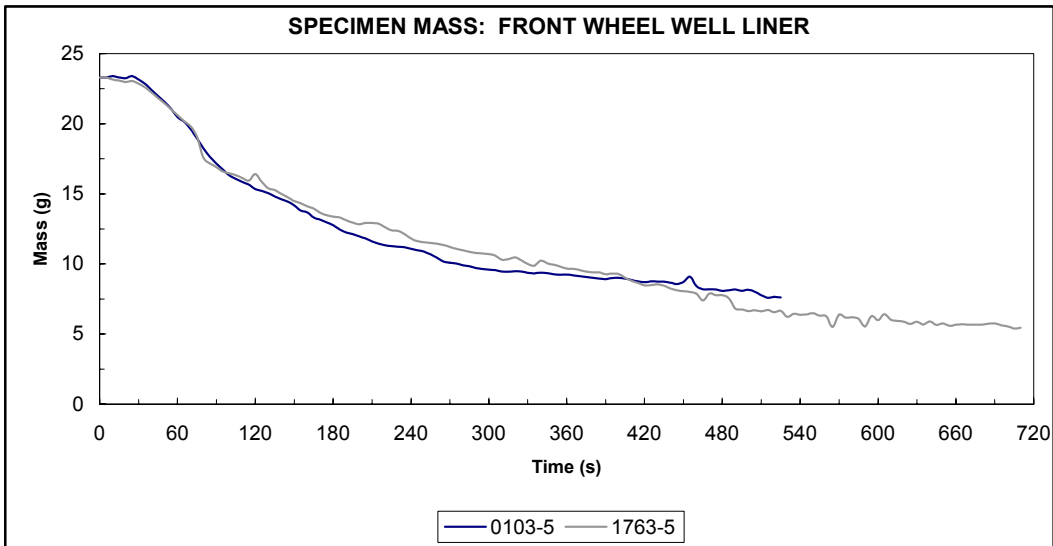
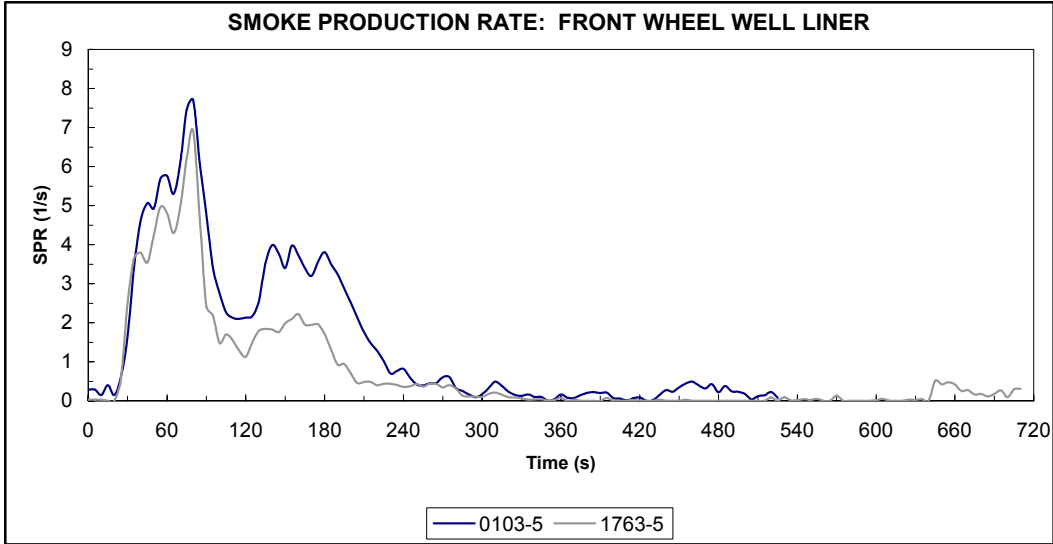


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
Vehicle Model: 1997 Camaro

Material ID: Front Wheel Well Liner
Heat Flux: 50 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
 Vehicle Model: 1997 Camaro

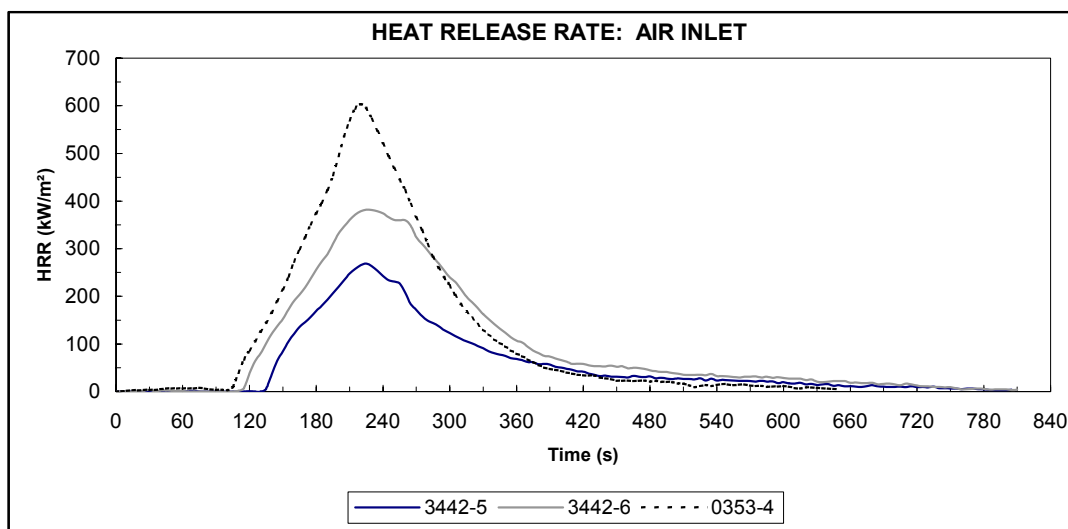
Material ID: Air Inlet
 Heat Flux: 20 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
3442-5	12/10/02	129	615	269	225	44.9	108	170	129	259
3442-6	12/10/02	108	643	382	225	73.6	115	258	210	377
0353-4	02/04/03	108	477	604	220	81.6	175	360	260	580
<i>Average</i>		115	578	418	223	66.7	133	263	200	405

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
21.6	6.3	15.2	70.2	5.4	26.2	0.42	16	296	312	173
24.9	5.7	18.9	75.9	5.6	34.4	1.03	15	765	780	358
22.0	3.1	19.0	86.2	9.8	38.0	1.23	8	718	727	335
22.8	5.0	17.7	77.4	6.9	32.9	0.89	13	593	606	289

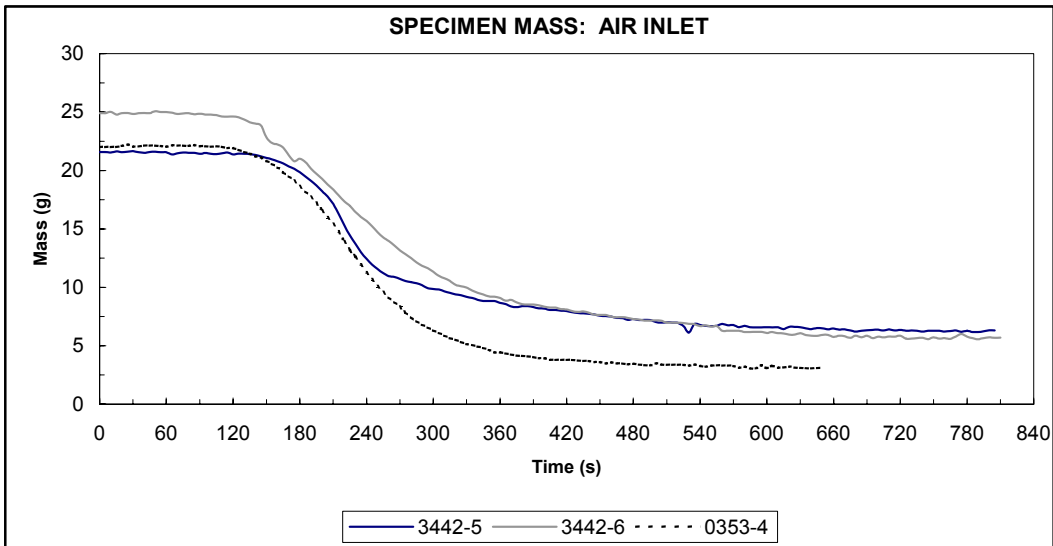
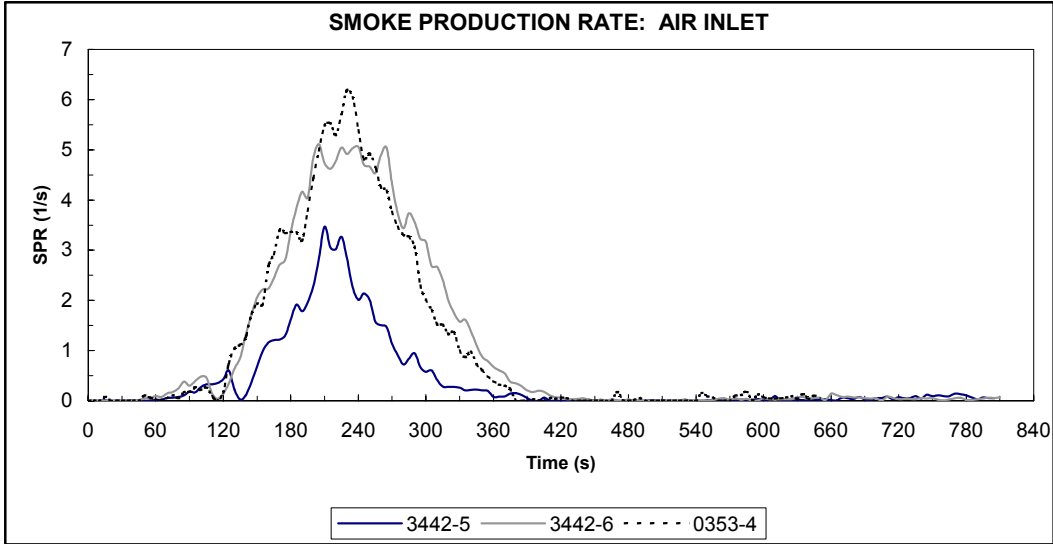


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
Vehicle Model: 1997 Camaro

Material ID: Air Inlet
Heat Flux: 20 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
 Vehicle Model: 1997 Camaro

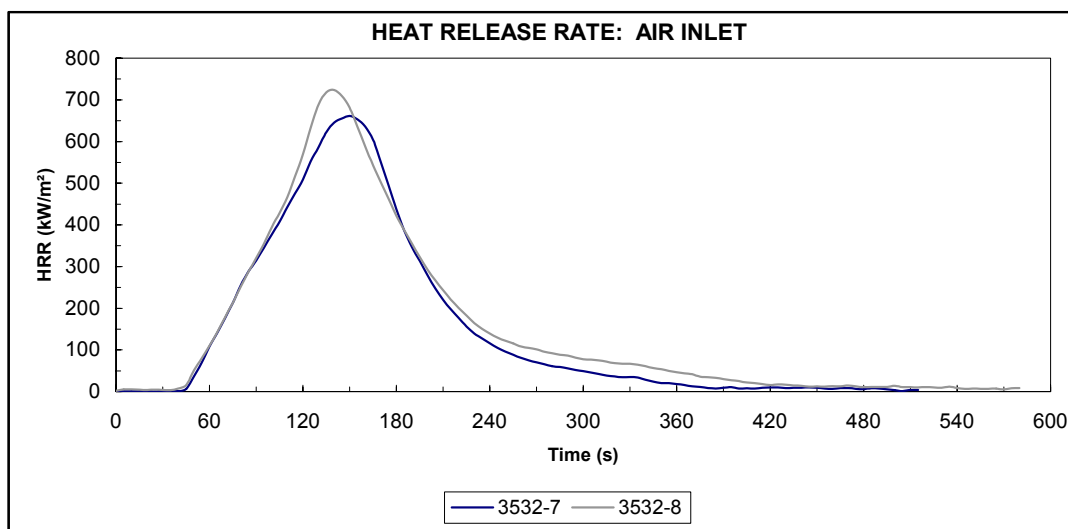
Material ID: Air Inlet
 Heat Flux: 35 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
3532-7	12/19/02	40	411	662	150	76.9	178	371	252	644
3532-8	12/19/02	38	478	724	140	85.8	184	386	272	692
Average		39	444	693	145	81.4	181	378	262	668

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
21.9	3.6	18.1	82.6	11.7	37.6	1.85	7	832	840	407
22.7	2.3	20.4	89.8	9.7	37.2	1.95	46	965	1011	419
22.3	2.9	19.2	86.2	10.7	37.4	1.90	26	899	925	413

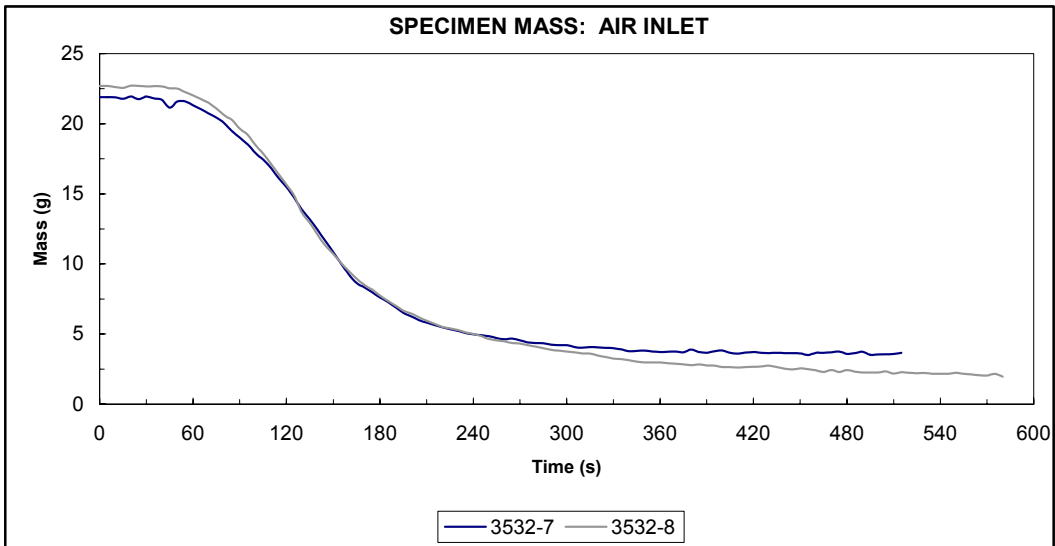
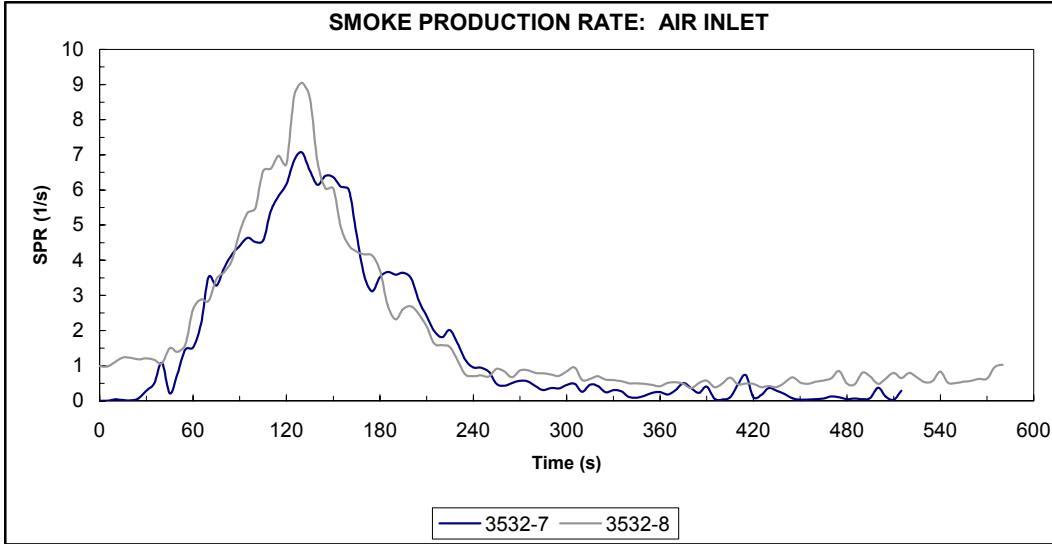


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
Vehicle Model: 1997 Camaro

Material ID: Air Inlet
Heat Flux: 35 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
 Vehicle Model: 1997 Camaro

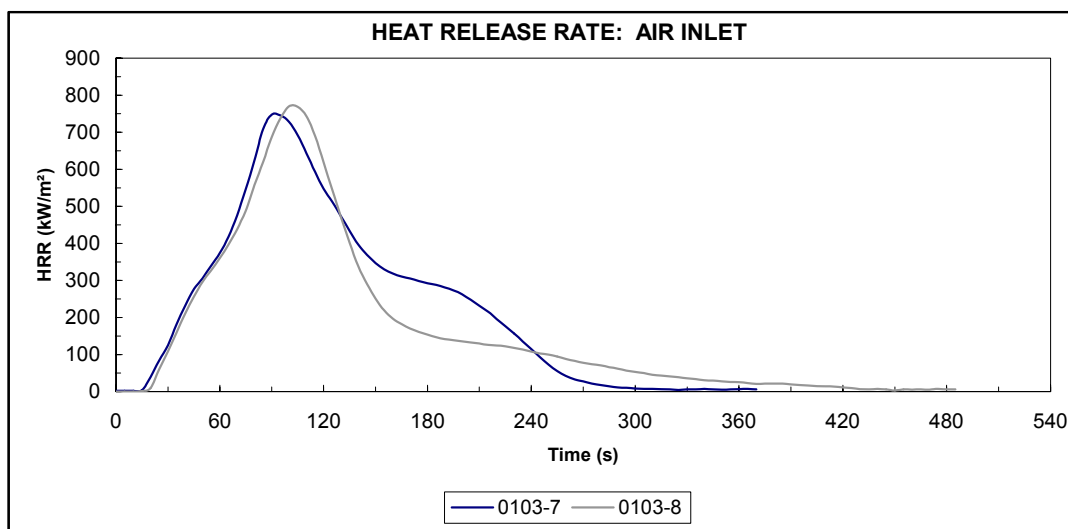
Material ID: Air Inlet
 Heat Flux: 50 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0103-7	01/10/03	17	286	747	90	84.1	261	403	280	709
0103-8	01/10/03	16	400	770	100	78.9	239	362	254	727
Average		16	343	759	95	81.5	250	383	267	718

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
21.4	1.0	20.4	95.3	11.9	36.4	3.99	3	1233	1236	534
21.7	1.7	19.9	91.8	10.3	35.0	2.95	5	1235	1240	548
21.6	1.4	20.2	93.5	11.1	35.7	3.47	4	1234	1238	541

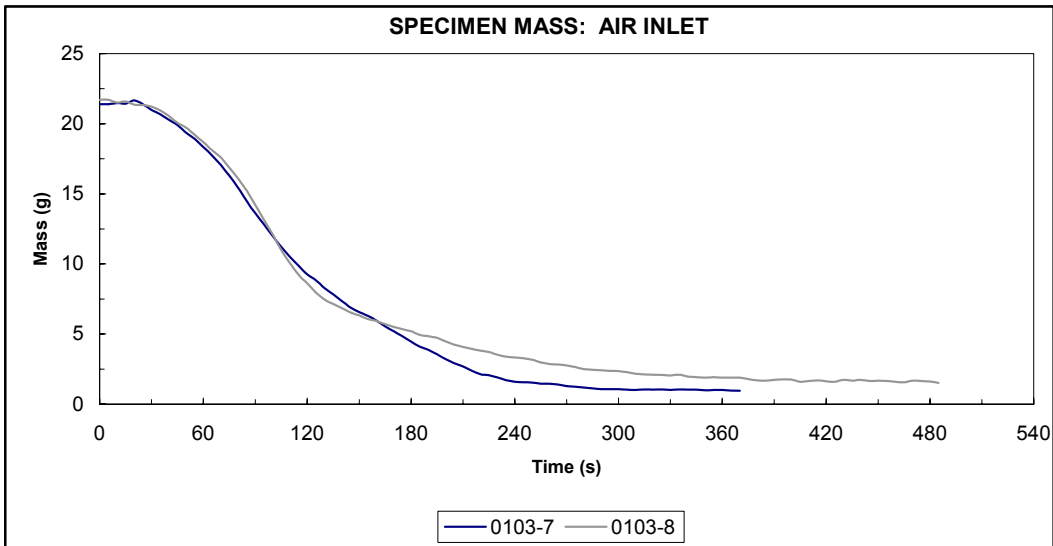
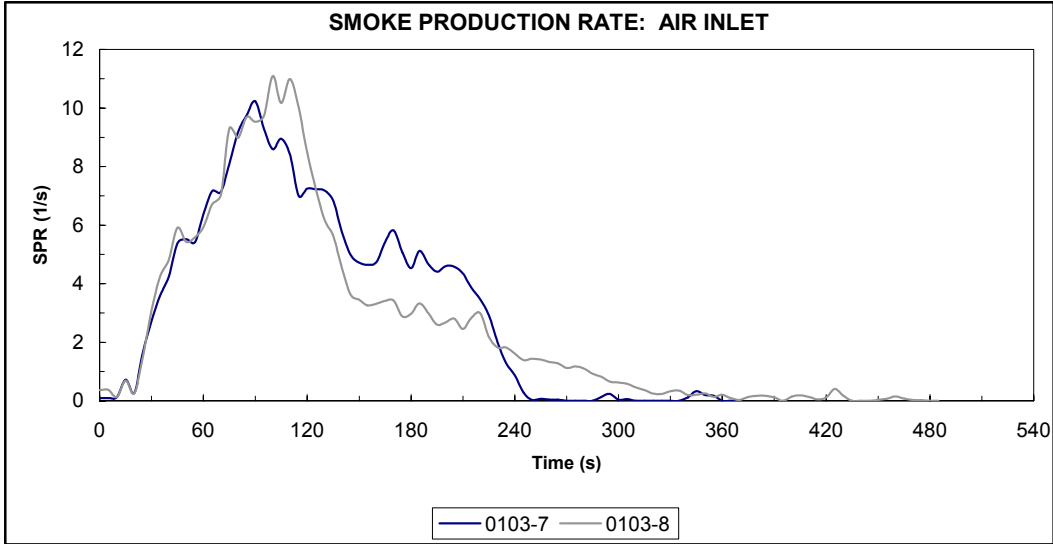


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
Vehicle Model: 1997 Camaro

Material ID: Air Inlet
Heat Flux: 50 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
 Vehicle Model: 1997 Camaro

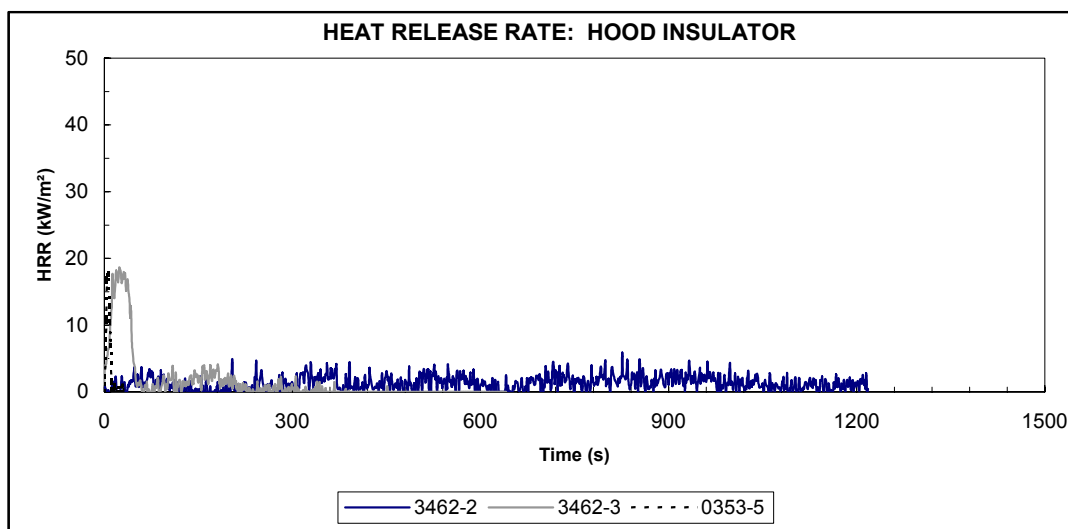
Material ID: Hood Insulator
 Heat Flux: 20 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
3462-2	12/12/02	No Ignition		6	826	1.6	1	1	1	2
3462-3	12/12/02	8	8	18	13	0.1	2	1	0	16
0353-5	02/04/03	12	7	17	4	0.1	3	1	1	16
Average		10	8	13	281	0.6	2	1	1	11

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
7.3	7.3	0.0	0.0	0.0	0.0	0.02	25	N/A	25	0
8.2	8.0	0.1	1.4	3.4	8.1	0.64	3	8	11	651
9.5	9.2	0.1	1.3	-5.8	7.7	0.20	3	2	5	123
8.3	8.2	0.1	0.9	-0.8	5.3	0.29	10	5	14	258

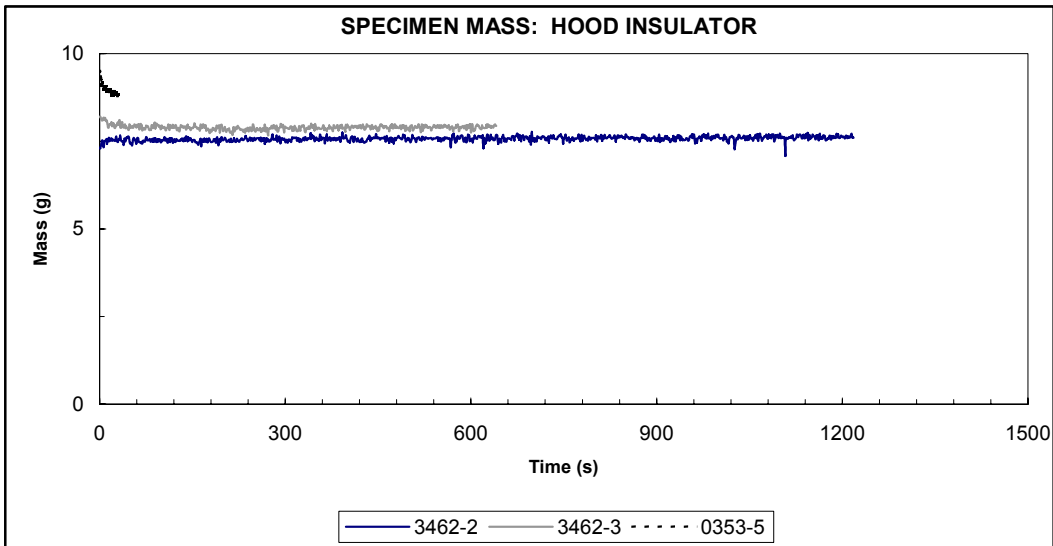
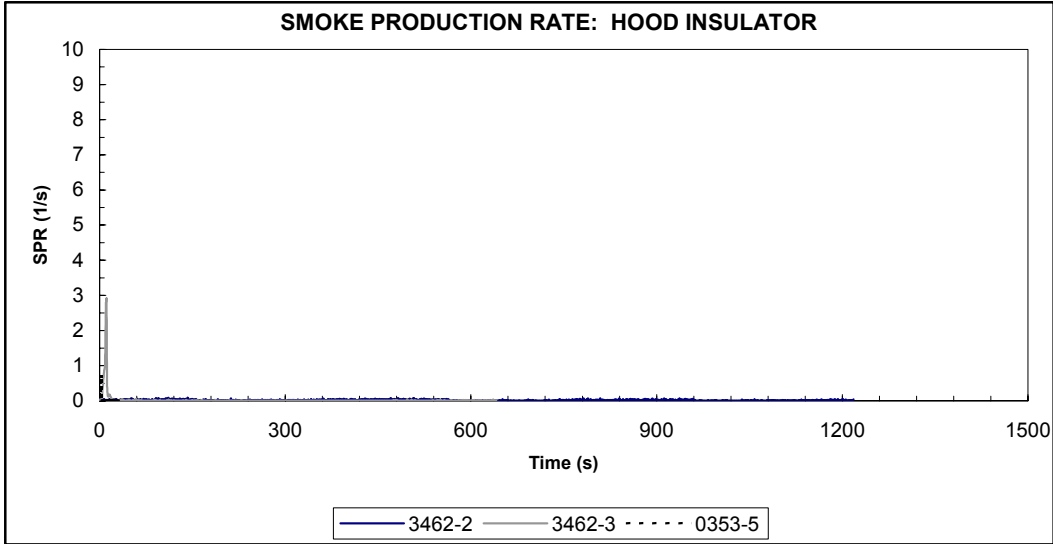


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
Vehicle Model: 1997 Camaro

Material ID: Hood Insulator
Heat Flux: 20 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
 Vehicle Model: 1997 Camaro

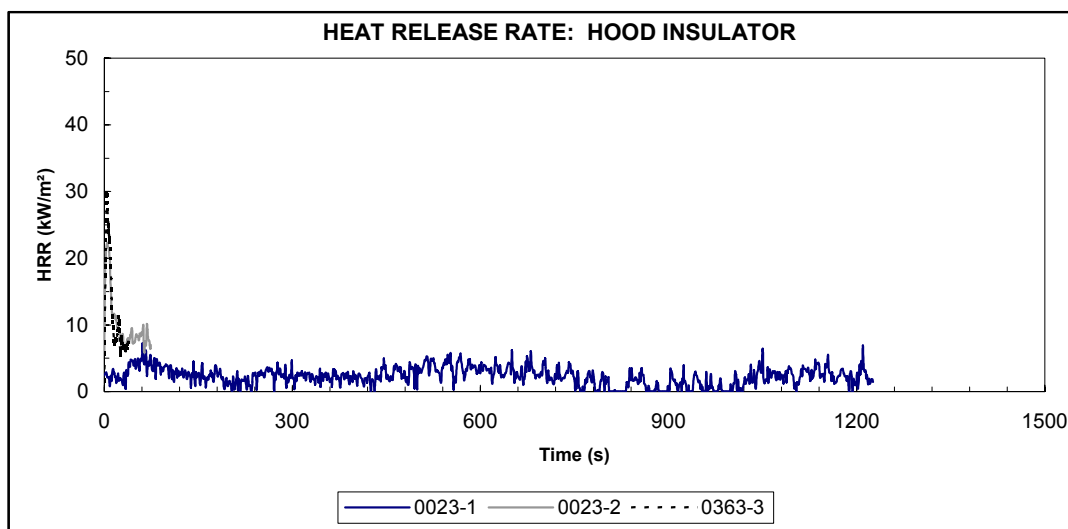
Material ID: Hood Insulator
 Heat Flux: 35 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0023-1	01/02/03	No Ignition		7	61	2.8	3	3	3	4
0023-2	01/02/03	2	7	21	2	0.1	3	1	1	22
0363-3	02/05/03	2	10	20	2	0.1	3	1	1	26
Average		2	8	16	22	1.0	3	2	1	17

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
8.1	8.0	0.1	0.6	0.0	475.2	0.07	83	N/A	83	14011
7.4	7.4	0.0	0.0	0.0	0.0	0.09	0	1	1	0
9.6	9.5	0.1	0.9	-0.8	10.9	0.13	0	1	1	147
8.4	8.3	0.0	0.5	-0.3	162.0	0.09	28	1	29	4719

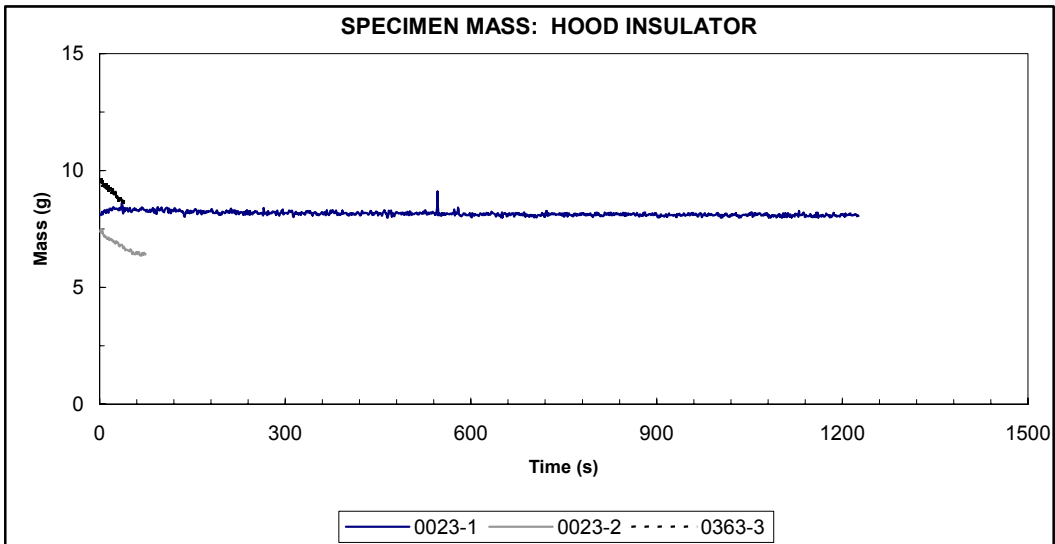
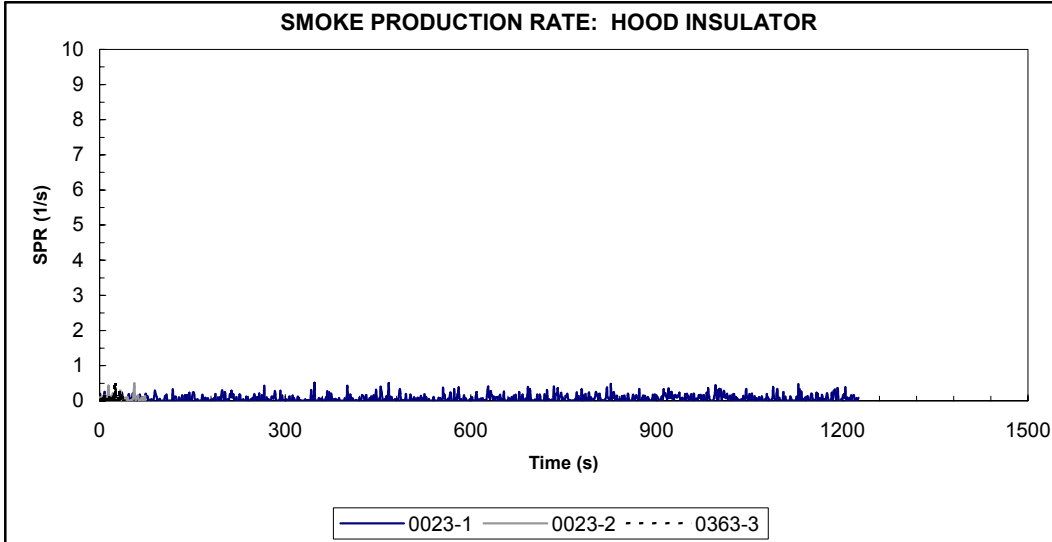


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
Vehicle Model: 1997 Camaro

Material ID: Hood Insulator
Heat Flux: 35 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
 Vehicle Model: 1997 Camaro

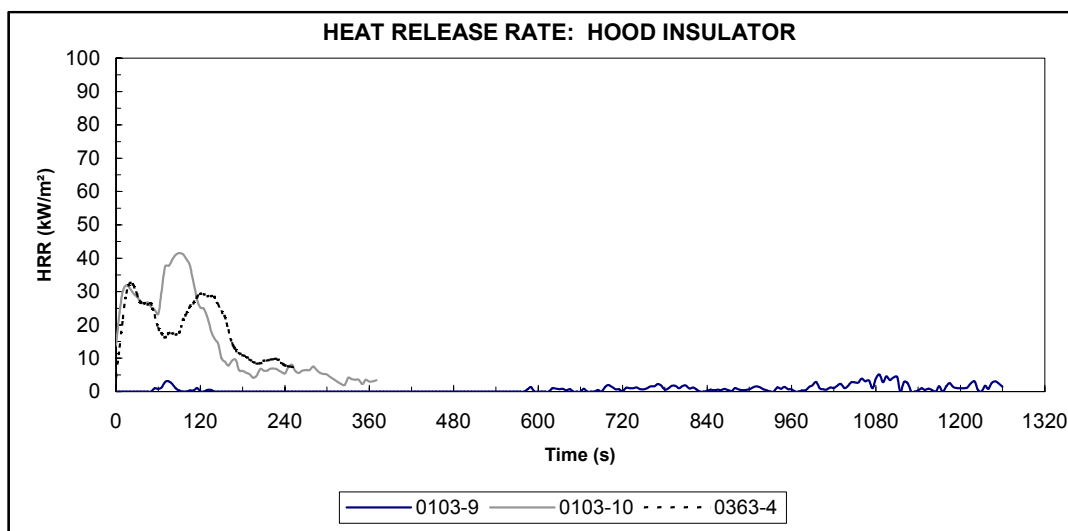
Material ID: Hood Insulator
 Heat Flux: 50 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0103-9	01/10/03	No Ignition		5	1085	0.9	0	0	0	4
0103-10	01/10/03	2	6	30	10	0.2	5	2	1	40
0363-4	02/05/03	1	9	22	10	0.1	3	1	1	29
Average		2	8	19	368	0.4	3	1	1	24

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
7.7	7.4	0.3	3.8	0.0	26.5	0.07	86	N/A	86	2578
7.6	7.3	0.3	3.4	0.0	7.7	0.00	0	0	0	0
9.1	8.9	0.2	2.1	0.0	6.2	0.21	0	2	2	105
8.1	7.9	0.2	3.1	0.0	13.5	0.09	29	1	29	894

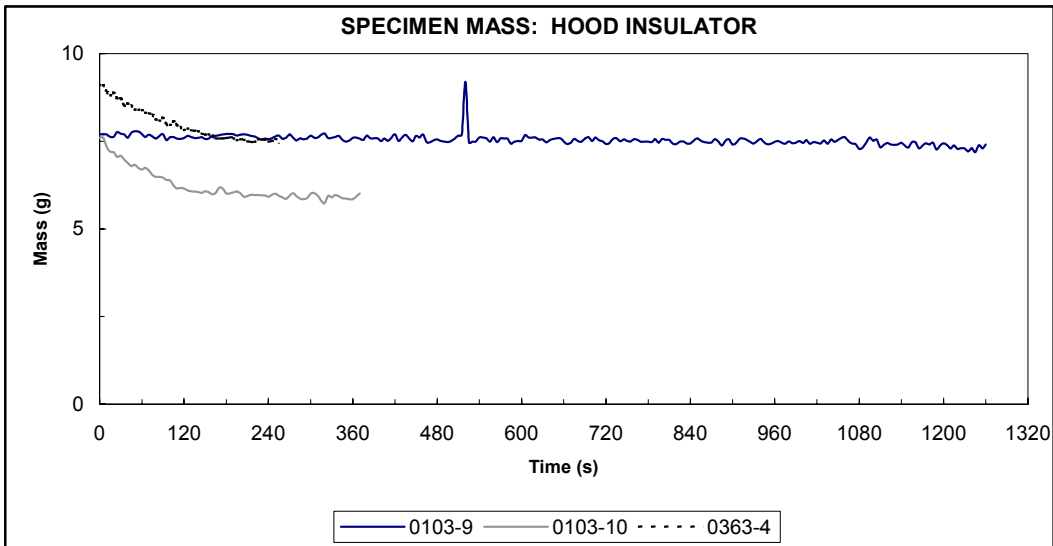
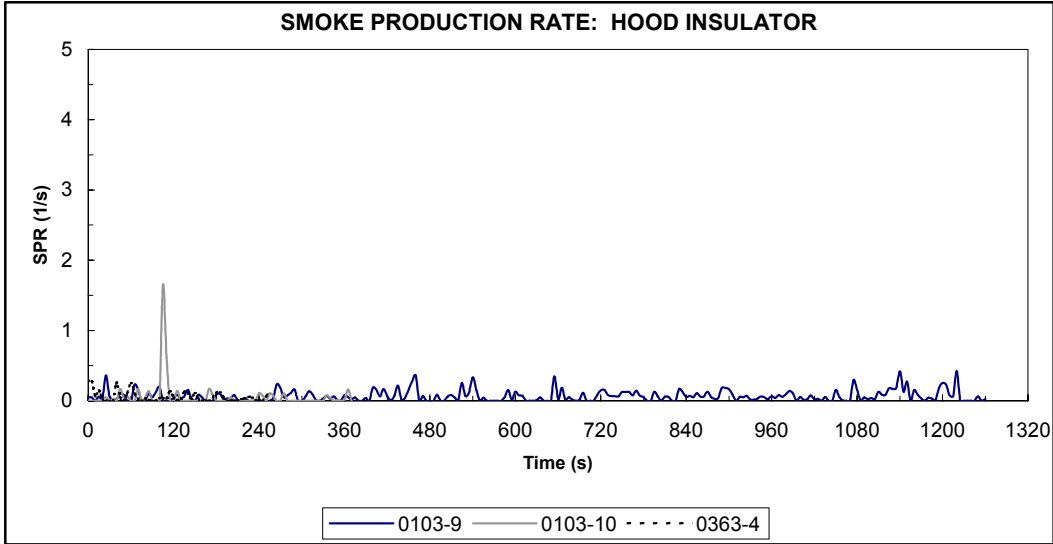


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
Vehicle Model: 1997 Camaro

Material ID: Hood Insulator
Heat Flux: 50 kW/m²

(Page 2)



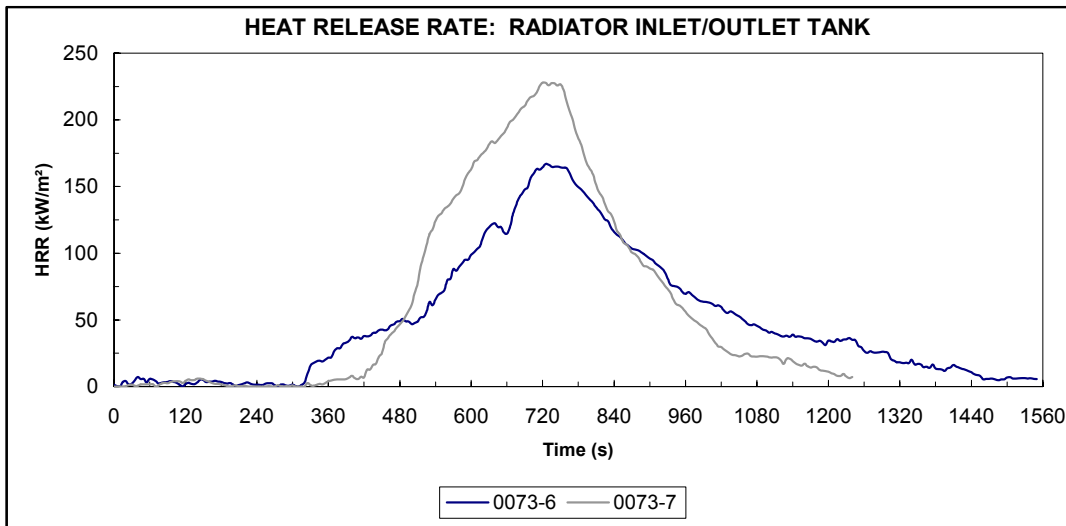
Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make:	Chevrolet	Material ID:	Radiator Inlet/Outlet Tank
Vehicle Model:	1997 Camaro	Heat Flux:	20 kW/m ²
Orientation:	Horizontal	Sample Area:	0.00884 m ²
Frame:	Yes	Distance:	25 mm
Spark Igniter:	Yes	Operator:	J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0073-6	01/07/03	301	1186	167	725	75.0	11	29	44	165
0073-7	01/07/03	312	865	228	720	77.5	2	14	57	227
Average		306	1026	197	723	76.2	7	21	51	196

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
42.3	14.6	27.1	64.2	3.8	24.4	0.45	3	668	671	218
39.4	11.4	27.3	69.4	6.3	25.0	0.96	68	1062	1130	343
40.9	13.0	27.2	66.8	5.1	24.7	0.70	35	865	900	280

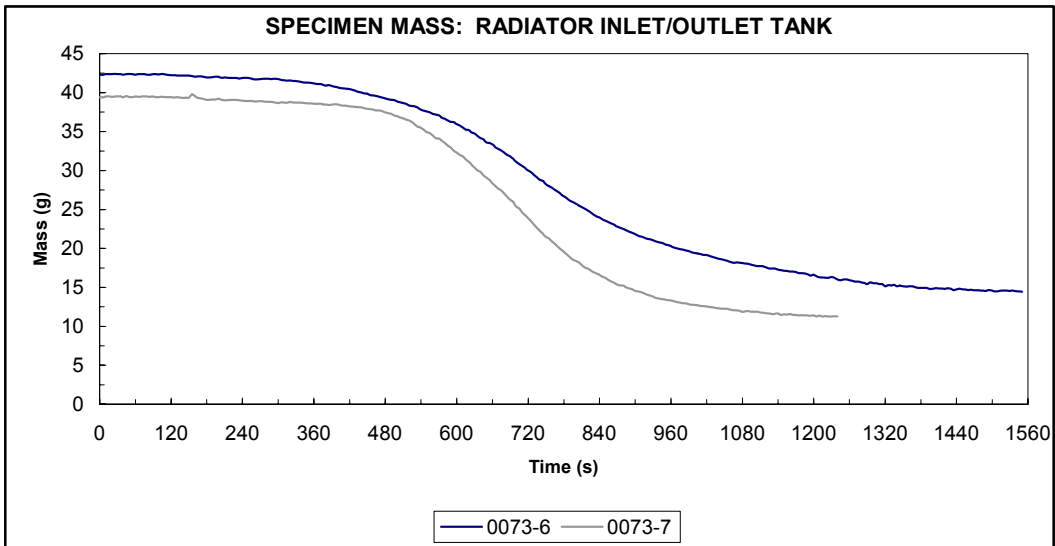
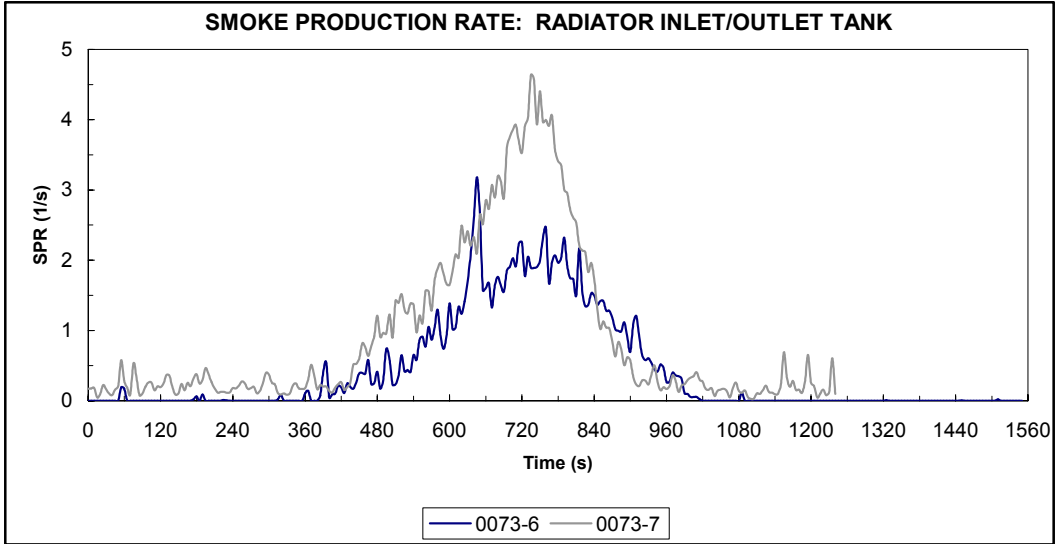


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
Vehicle Model: 1997 Camaro

Material ID: Radiator Inlet/Outlet Tank
Heat Flux: 20 kW/m²

(Page 2)



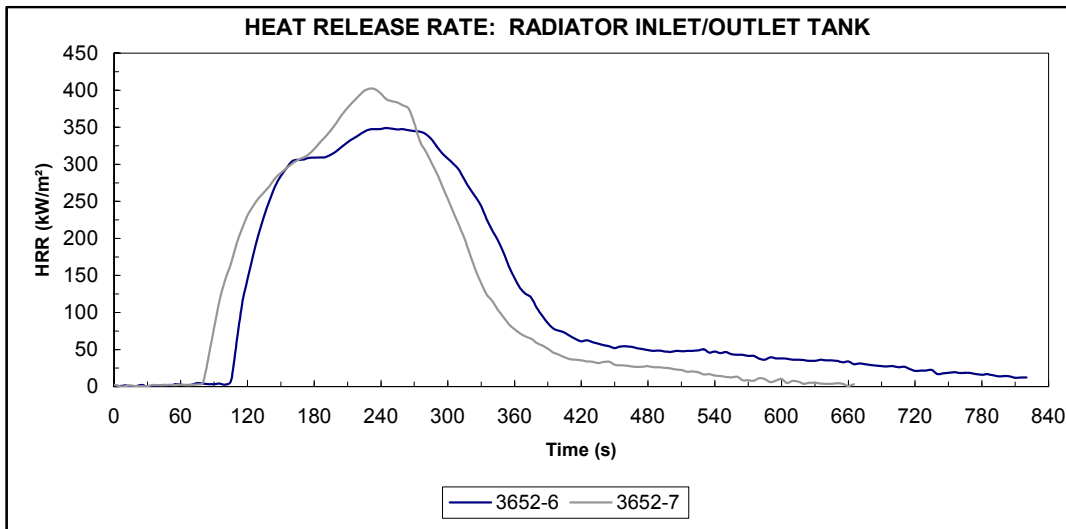
Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet	Material ID: Radiator Inlet/Outlet Tank
Vehicle Model: 1997 Camaro	Heat Flux: 35 kW/m ²
Orientation: Horizontal	Sample Area: 0.00884 m ²
Frame: Yes	Distance: 25 mm
Spark Igniter: Yes	Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
3652-6	12/31/02	108	642	349	245	89.9	230	299	254	348
3652-7	12/31/02	89	506	402	230	80.6	213	309	252	396
Average		98	574	376	238	85.3	222	304	253	372

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
43.2	12.1	29.9	69.2	9.0	26.6	1.07	25	785	810	232
37.0	9.0	27.4	74.0	11.8	26.0	1.62	17	953	970	308
40.1	10.6	28.6	71.6	10.4	26.3	1.35	21	869	890	270

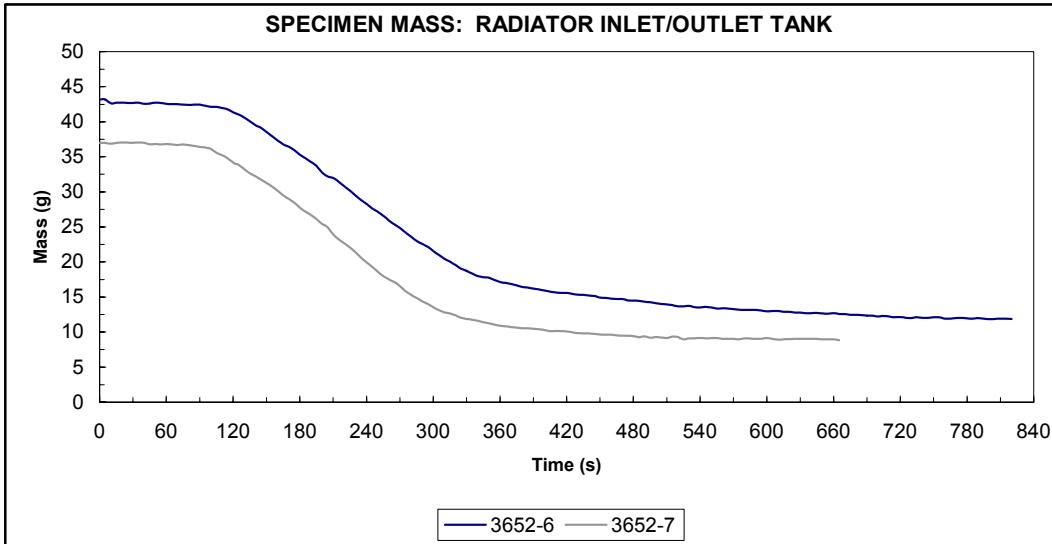
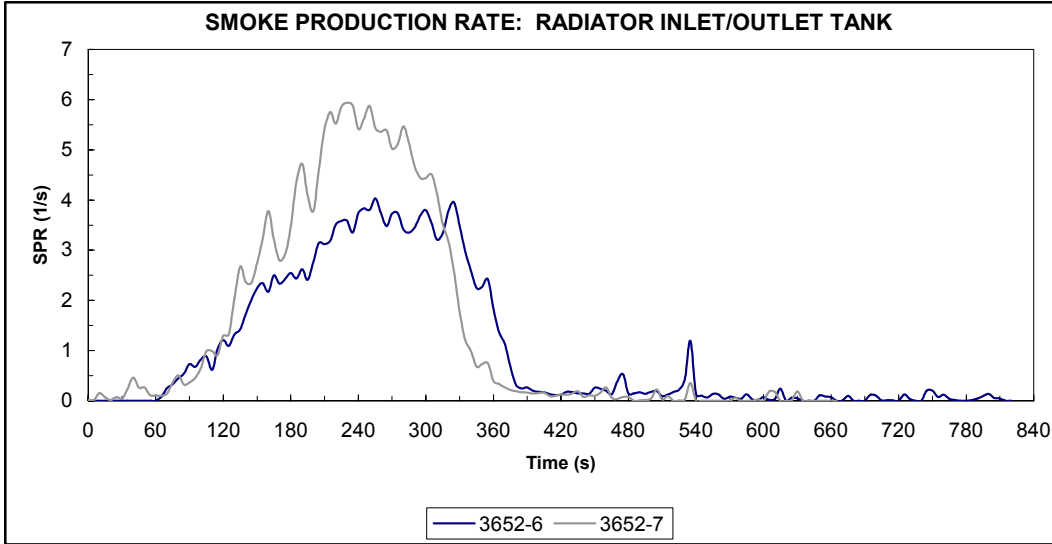


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
Vehicle Model: 1997 Camaro

Material ID: Radiator Inlet/Outlet Tank
Heat Flux: 35 kW/m²

(Page 2)



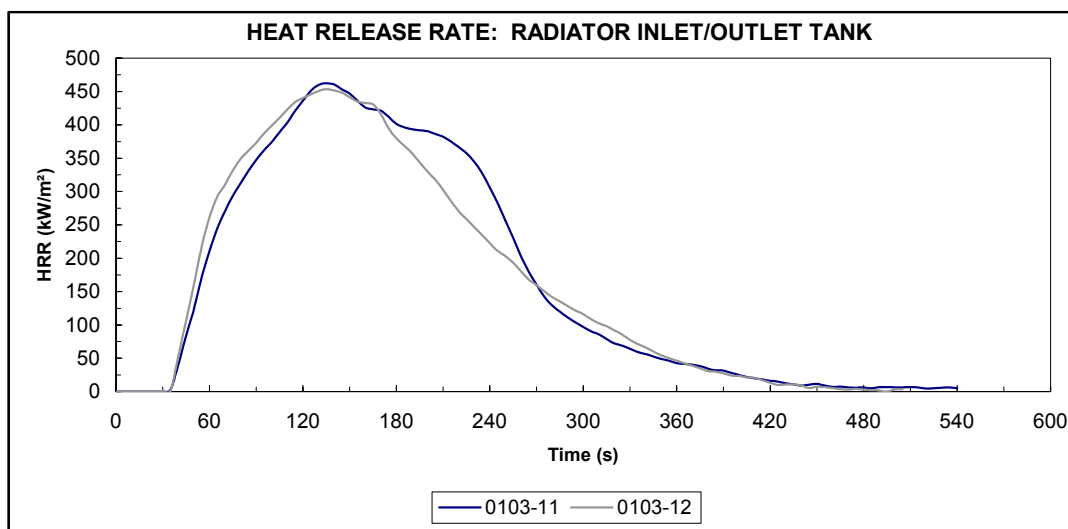
Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make:	Chevrolet	Material ID:	Radiator Inlet/Outlet Tank
Vehicle Model:	1997 Camaro	Heat Flux:	50 kW/m ²
Orientation:	Horizontal	Sample Area:	0.00884 m ²
Frame:	Yes	Distance:	25 mm
Spark Igniter:	Yes	Operator:	J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0103-11	01/10/03	43	397	462	135	87.9	273	368	284	455
0103-12	01/10/03	44	395	454	135	85.5	309	364	276	448
<i>Average</i>		44	396	458	135	86.7	291	366	280	452

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
40.2	9.7	30.3	75.4	14.4	25.6	2.43	11	1071	1081	312
39.9	9.4	29.8	74.6	13.1	25.4	2.28	6	1011	1017	300
40.1	9.6	30.0	75.0	13.8	25.5	2.36	8	1041	1049	306

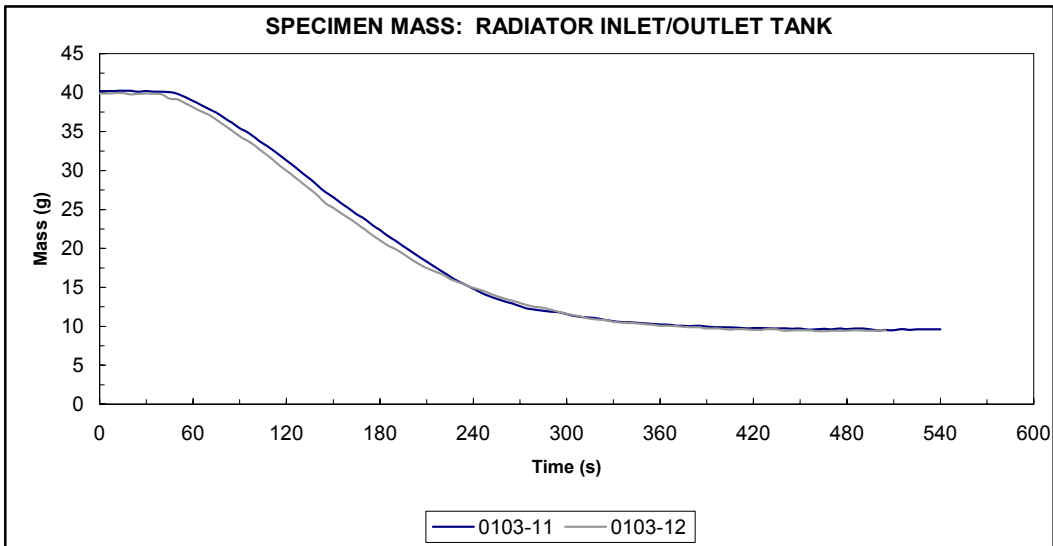
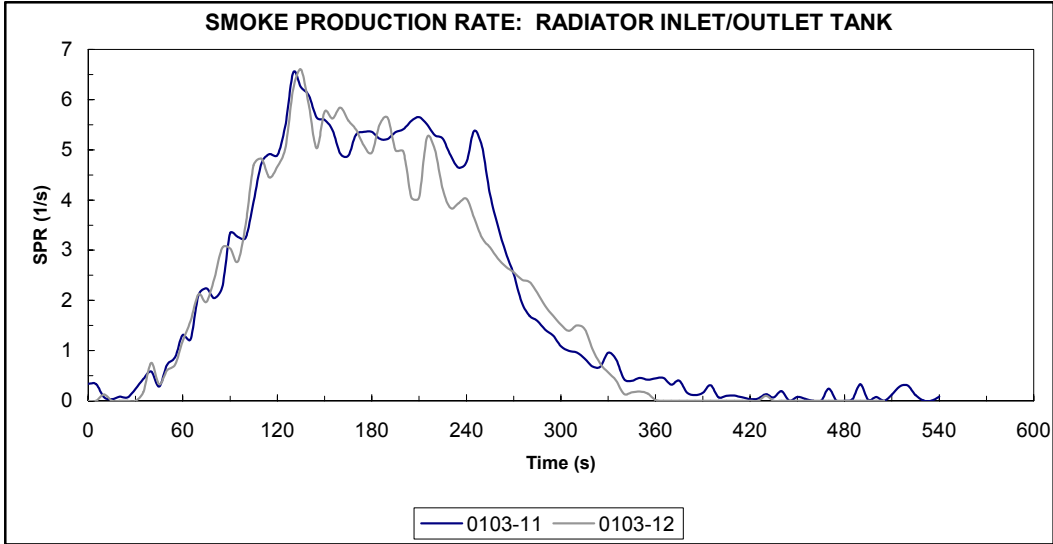


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
Vehicle Model: 1997 Camaro

Material ID: Radiator Inlet/Outlet Tank
Heat Flux: 50 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
 Vehicle Model: 1997 Camaro

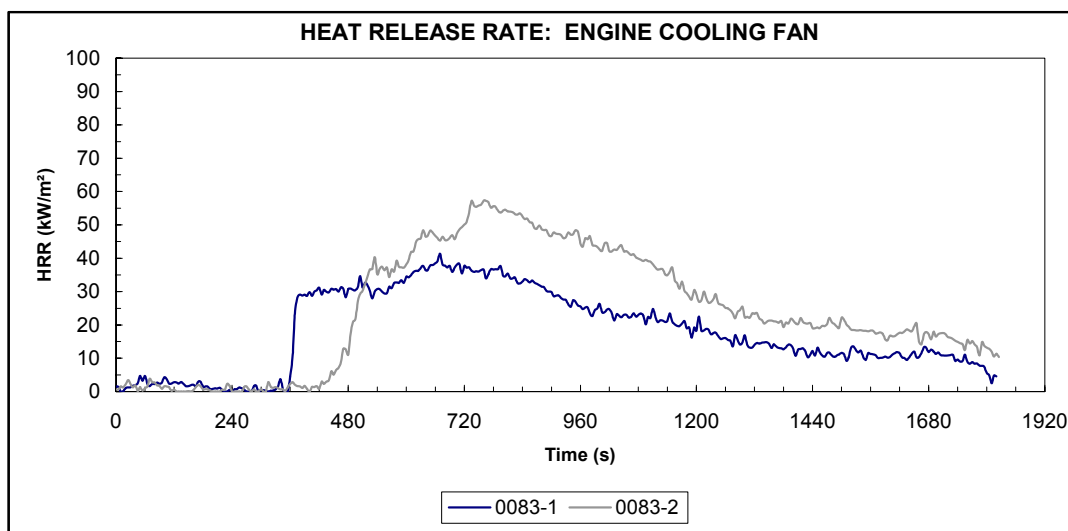
Material ID: Engine Cooling Fan
 Heat Flux: 20 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0083-1	01/08/03	347	1412	41	670	31.9	19	27	29	39
0083-2	01/08/03	392	1360	57	760	42.7	2	18	28	56
Average		370	1386	49	715	37.3	11	22	29	48

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
39.4	26.9	11.6	29.3	1.0	24.4	0.24	34	386	420	295
39.1	25.1	13.0	33.3	1.4	29.0	0.04	1	65	66	44
39.3	26.0	12.3	31.3	1.2	26.7	0.14	17	226	243	170

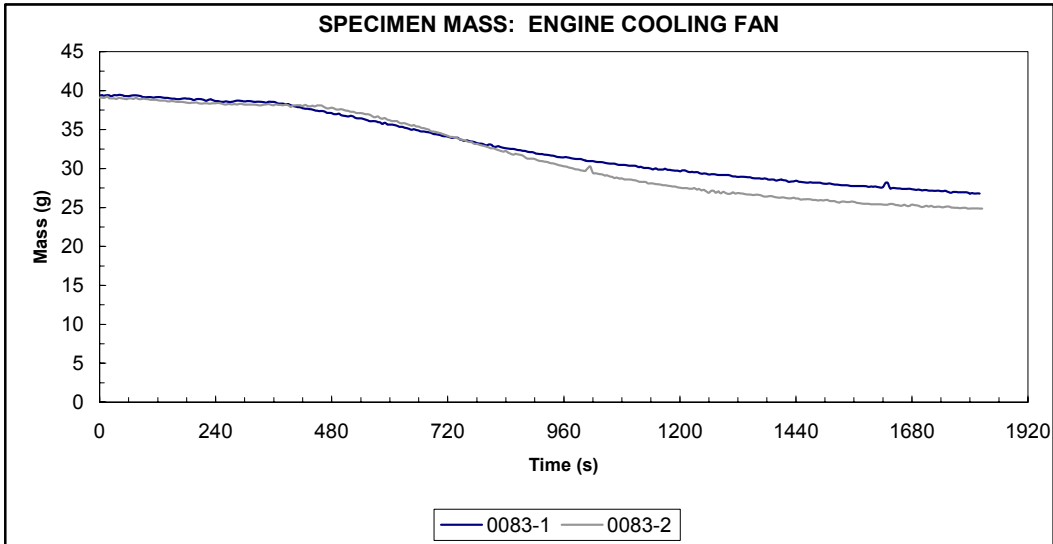
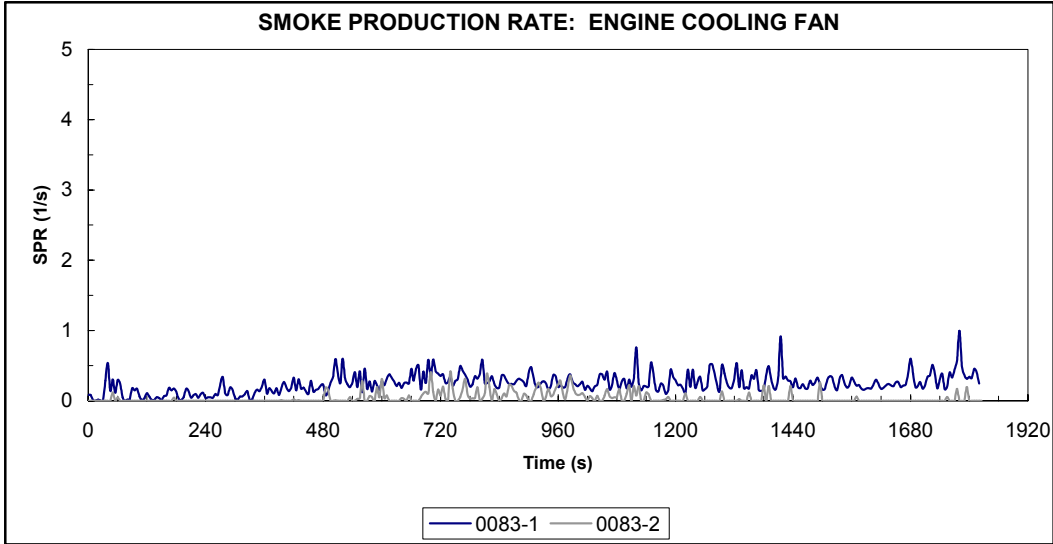


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
Vehicle Model: 1997 Camaro

Material ID: Engine Cooling Fan
Heat Flux: 20 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
 Vehicle Model: 1997 Camaro

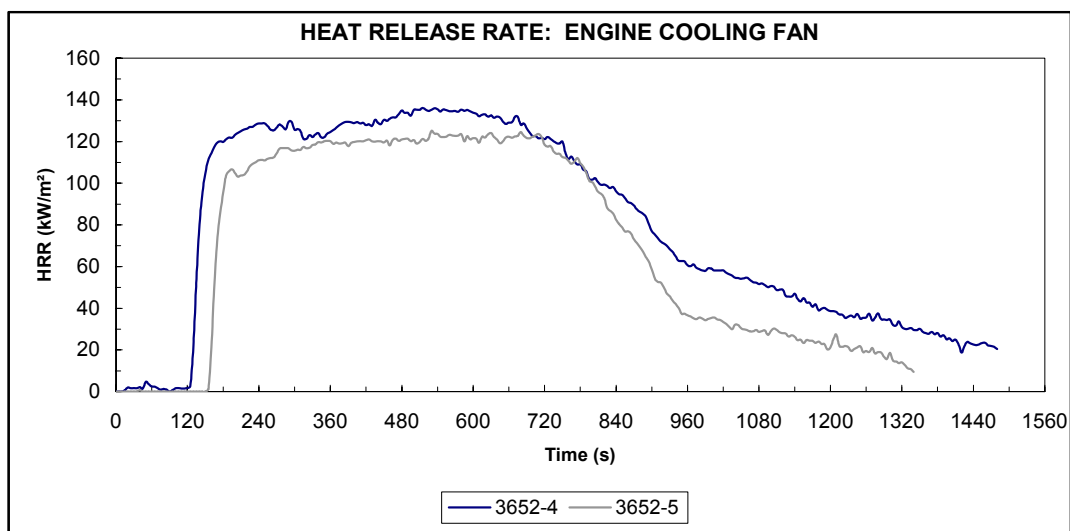
Material ID: Engine Cooling Fan
 Heat Flux: 35 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
3652-4	12/31/02	129	1292	136	515	116.3	102	118	121	135
3652-5	12/31/02	152	1127	125	530	93.7	75	100	108	123
Average		140	1210	131	523	105.0	89	109	115	129

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
64.7	25.4	38.4	59.4	4.0	26.8	0.59	31	815	846	187
61.0	26.6	33.5	55.0	4.3	24.7	0.65	28	807	835	213
62.9	26.0	36.0	57.2	4.1	25.7	0.62	30	811	840	200

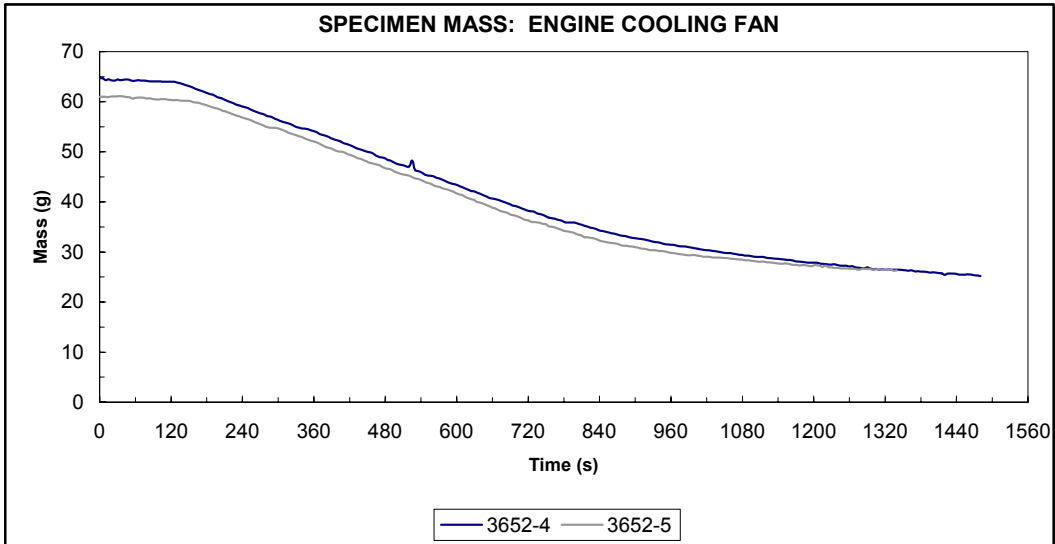
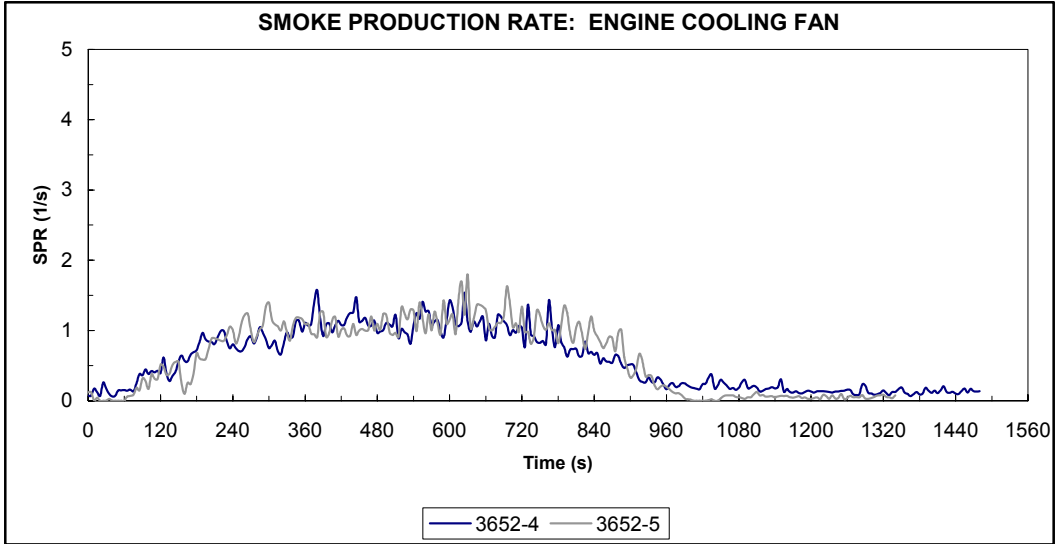


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
Vehicle Model: 1997 Camaro

Material ID: Engine Cooling Fan
Heat Flux: 35 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
 Vehicle Model: 1997 Camaro

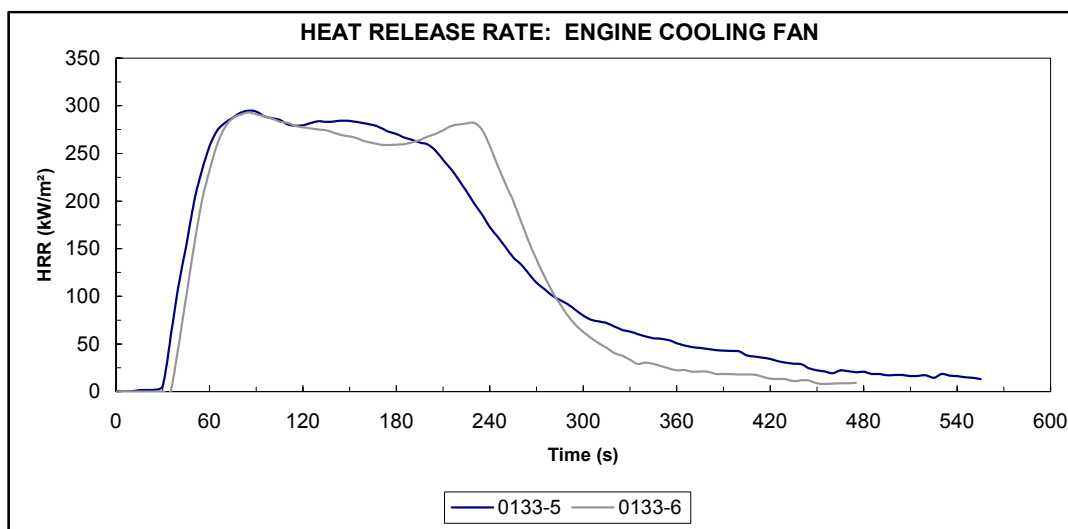
Material ID: Engine Cooling Fan
 Heat Flux: 50 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0133-5	01/13/03	32	443	295	85	67.4	216	256	206	291
0133-6	01/13/03	36	368	293	85	64.2	214	252	209	289
Average		34	406	294	85	65.8	215	254	207	290

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
37.3	14.1	23.0	61.8	8.5	25.9	0.87	1	416	418	160
35.6	12.9	22.3	62.7	10.1	25.4	1.25	9	504	513	200
36.5	13.5	22.7	62.2	9.3	25.6	1.06	5	460	465	180

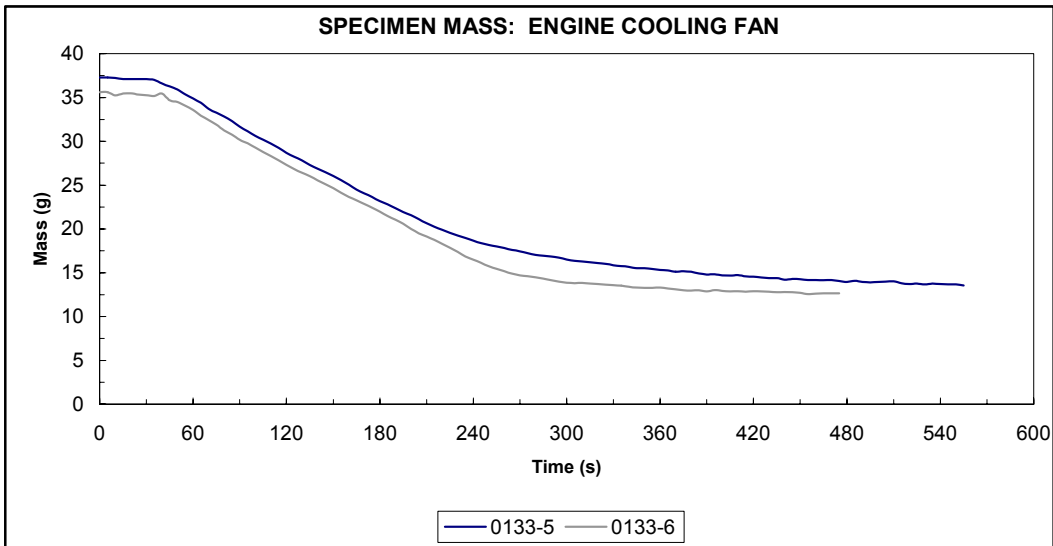
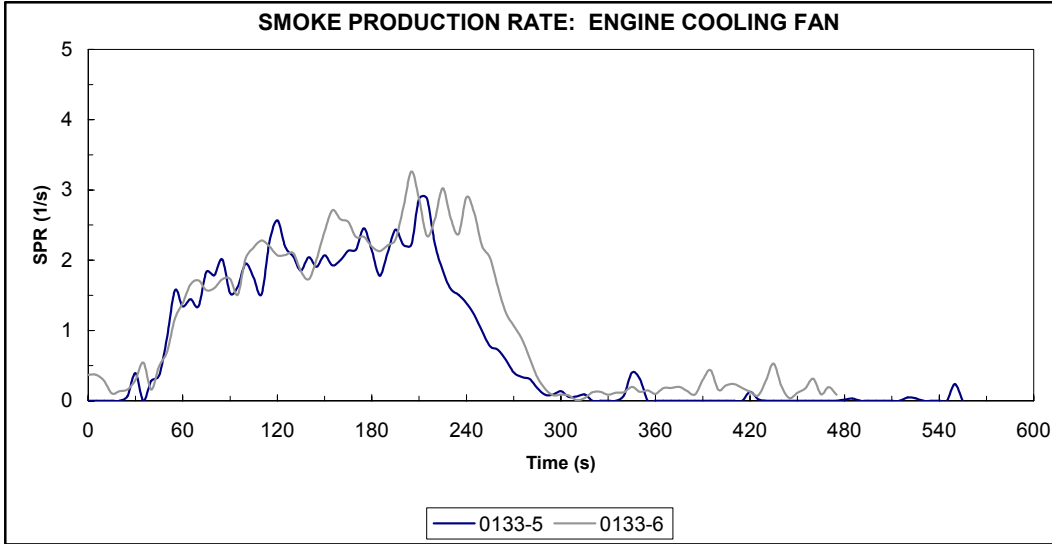


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
Vehicle Model: 1997 Camaro

Material ID: Engine Cooling Fan
Heat Flux: 50 kW/m²

(Page 2)



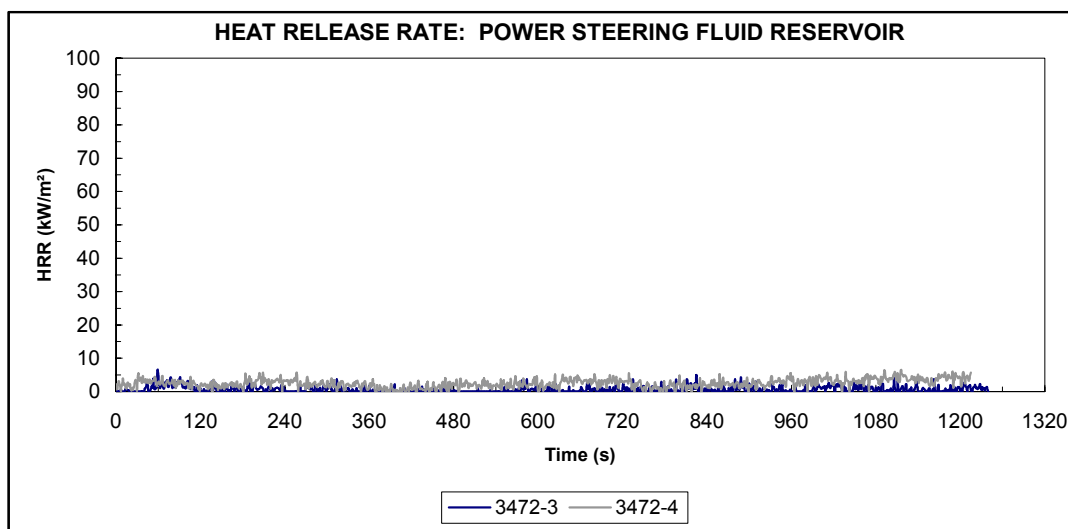
Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make:	Chevrolet	Material ID:	Power Steering Fluid Reservoir
Vehicle Model:	1997 Camaro	Heat Flux:	20 kW/m ²
Orientation:	Horizontal	Sample Area:	0.00884 m ²
Frame:	Yes	Distance:	25 mm
Spark Igniter:	Yes	Operator:	J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
3472-3	12/13/02	No Ignition		6	59	0.8	1	1	1	2
3472-4	12/13/02	No Ignition		7	1116	3.0	3	2	2	6
Average		No Ignition		7	588	1.9	2	2	2	4

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
54.7	51.2	3.5	6.4	0.3	2.1	0.03	39	N/A	39	99
44.2	41.4	2.8	6.4	0.3	9.4	0.04	47	N/A	47	147
49.5	46.3	3.2	6.4	0.3	5.8	0.04	43	N/A	43	123

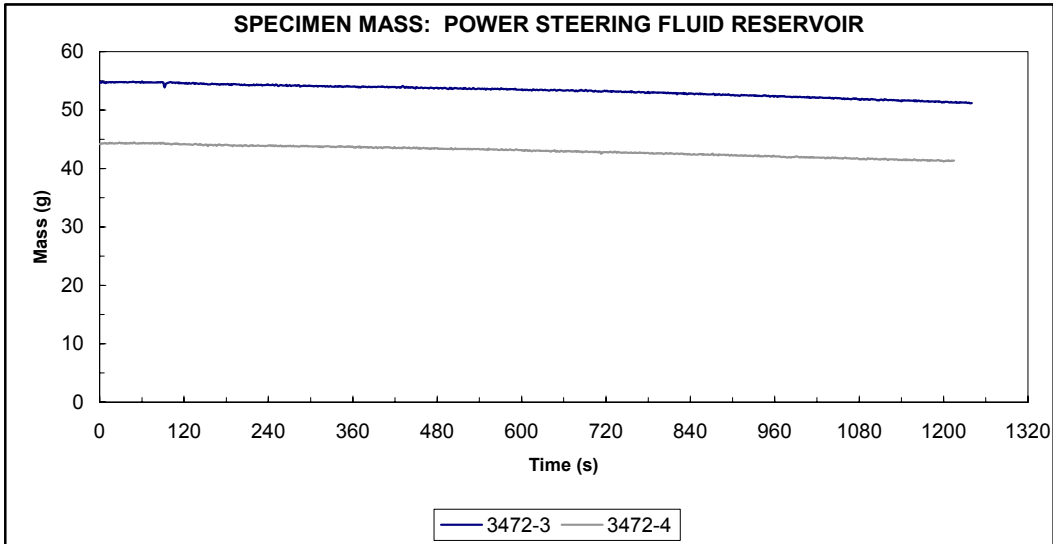
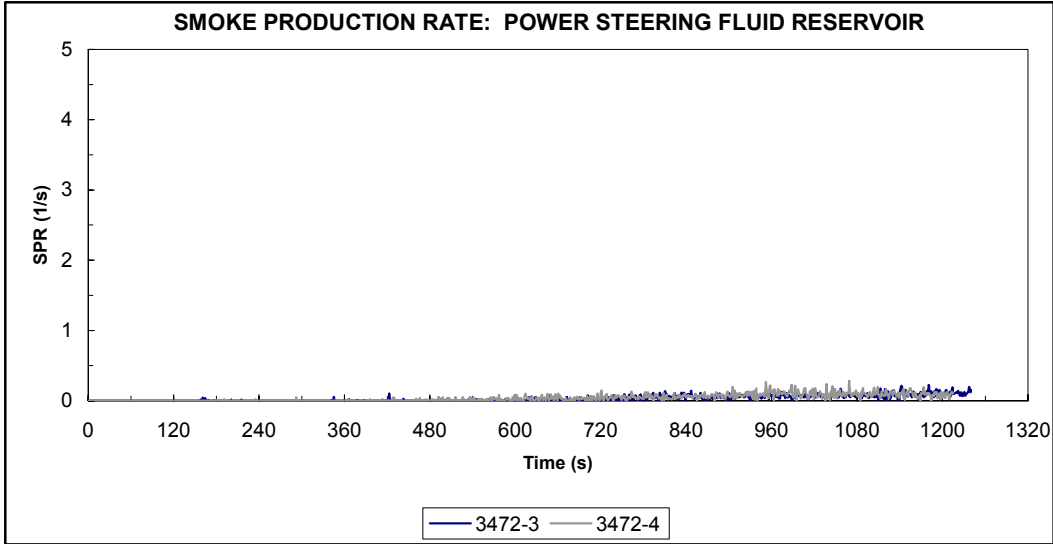


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
Vehicle Model: 1997 Camaro

Material ID: Power Steering Fluid Reservoir
Heat Flux: 20 kW/m²

(Page 2)



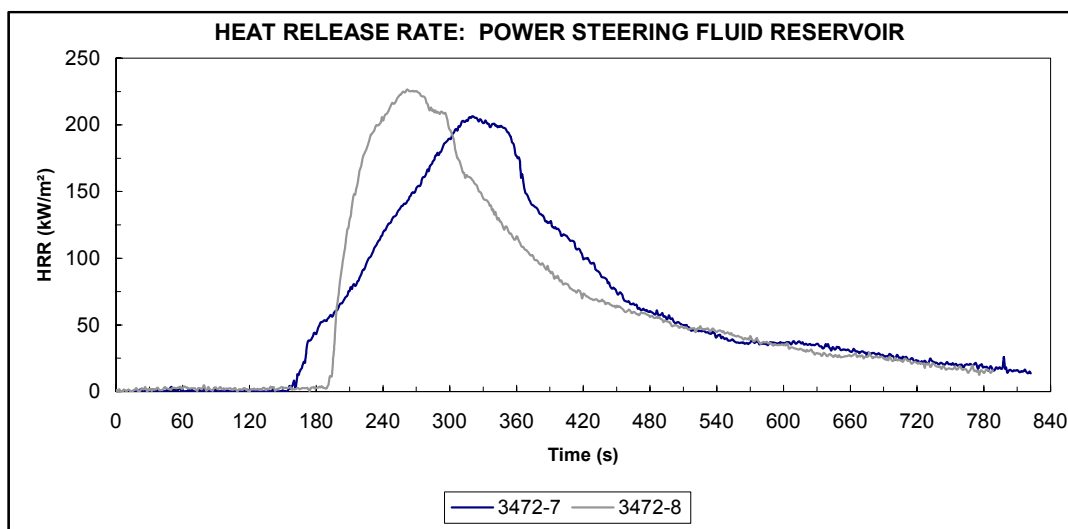
Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet	Material ID: Power Steering Fluid Reservoir
Vehicle Model: 1997 Camaro	Heat Flux: 35 kW/m ²
Orientation: Horizontal	Sample Area: 0.00884 m ²
Frame: Yes	Distance: 25 mm
Spark Igniter: Yes	Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
3472-7	12/13/02	152	640	207	320	49.2	41	116	123	203
3472-8	12/13/02	186	570	226	262	47.1	132	162	127	223
Average		169	605	216	291	48.1	87	139	125	213

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
35.7	14.7	19.9	55.9	5.1	21.8	0.68	83	458	540	203
34.6	13.8	19.0	55.0	5.1	21.9	1.19	213	686	899	319
35.2	14.3	19.5	55.4	5.1	21.8	0.93	148	572	720	261

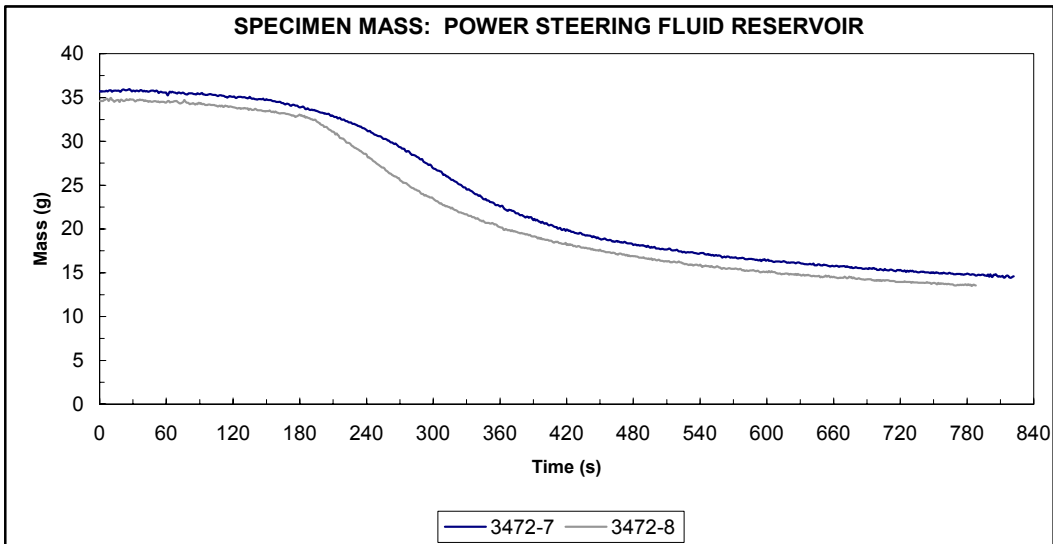
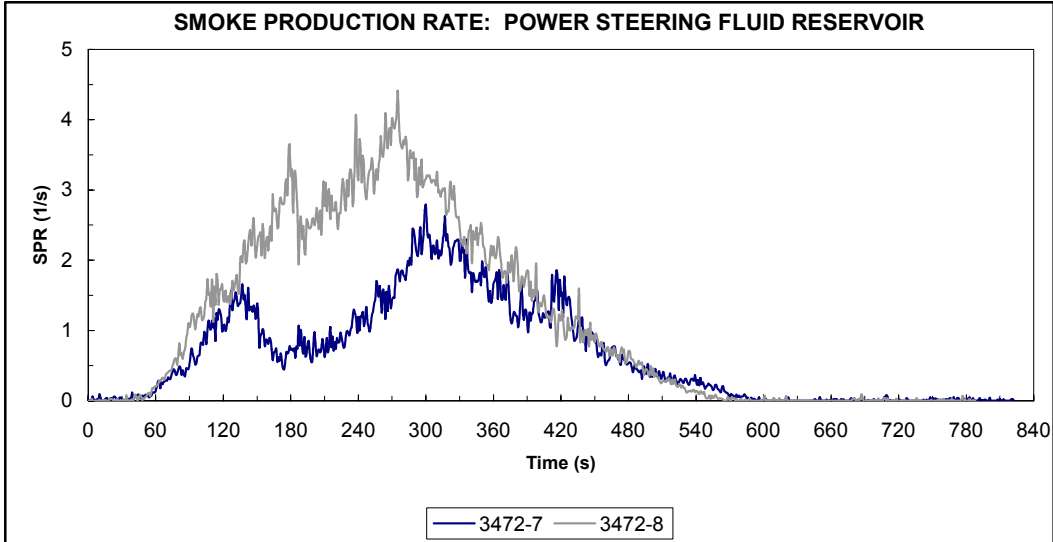


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
Vehicle Model: 1997 Camaro

Material ID: Power Steering Fluid Reservoir
Heat Flux: 35 kW/m²

(Page 2)



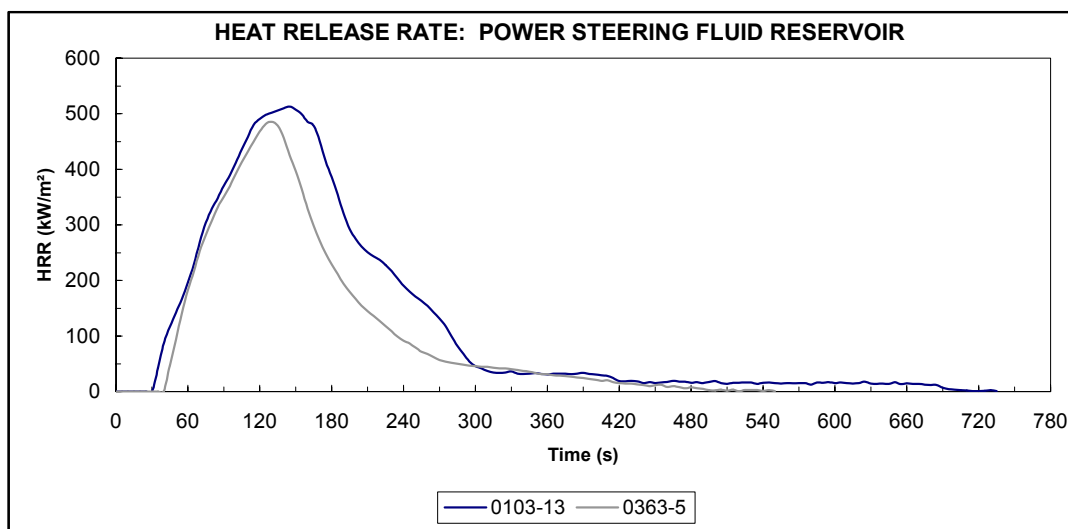
Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet	Material ID: Power Steering Fluid Reservoir
Vehicle Model: 1197 Camaro	Heat Flux: 50 kW/m ²
Orientation: Horizontal	Sample Area: 0.00884 m ²
Frame: Yes	Distance: 25 mm
Spark Igniter: Yes	Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0103-13	01/10/03	34	632	513	145	85.1	231	358	262	506
0363-5	02/05/03	37	443	486	130	62.6	199	287	199	468
Average		36	538	499	138	73.9	215	322	230	487

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
25.1	3.3	21.7	86.5	8.0	34.7	2.15	9	1427	1436	581
33.5	11.2	22.1	66.1	10.5	25.0	1.50	1	728	729	291
29.3	7.2	21.9	76.3	9.3	29.8	1.82	5	1078	1082	436

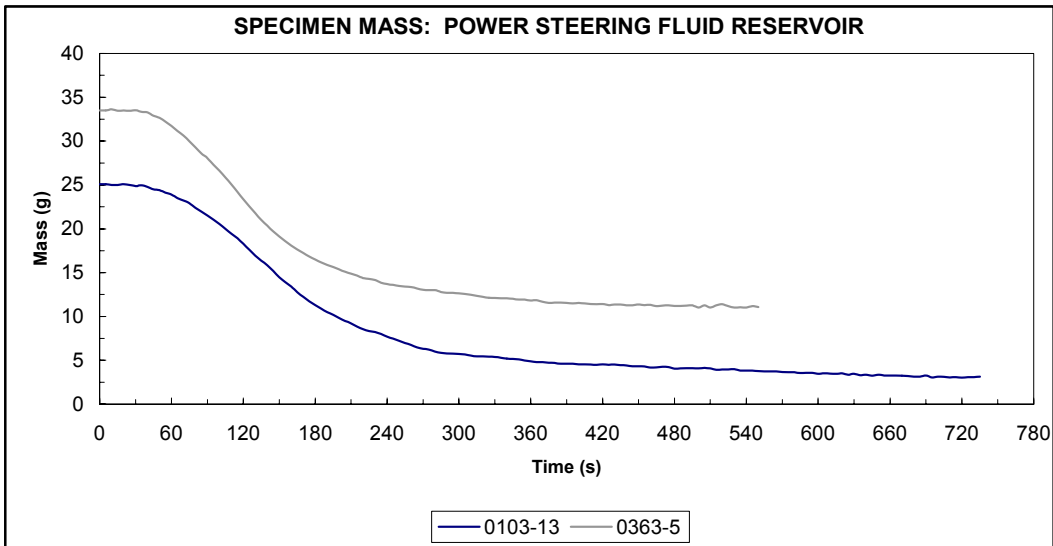
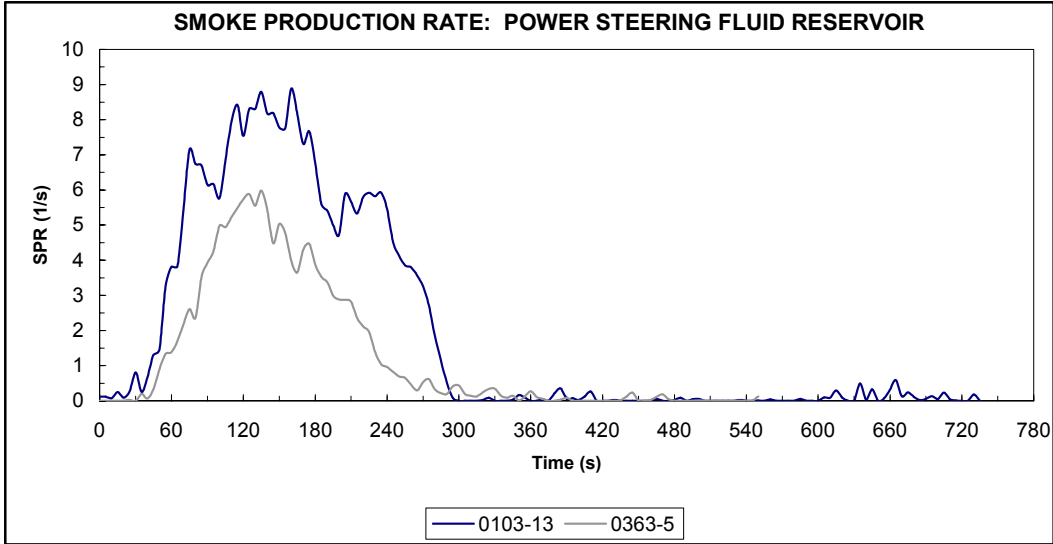


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
Vehicle Model: 1197 Camaro

Material ID: Power Steering Fluid Reservoir
Heat Flux: 50 kW/m²

(Page 2)



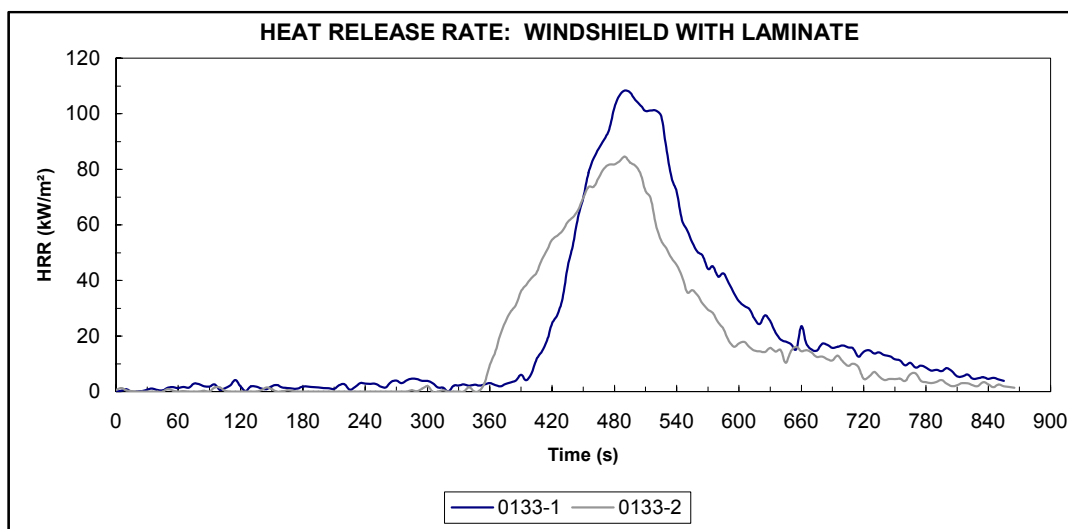
Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make:	Chevrolet	Material ID:	Windshield with Laminate
Vehicle Model:	1997 Camaro	Heat Flux:	20 kW/m ²
Orientation:	Horizontal	Sample Area:	0.00884 m ²
Frame:	Yes	Distance:	25 mm
Spark Igniter:	Yes	Operator:	J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0133-1	01/13/03	386	401	108	490	16.2	23	65	50	105
0133-2	01/13/03	329	468	85	490	14.1	13	48	42	82
<i>Average</i>		358	434	96	490	15.2	18	56	46	94

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
113.9	108.0	5.4	4.8	2.7	26.5	0.09	11	64	74	104
111.4	105.6	5.7	5.2	2.2	21.6	0.28	45	181	226	279
112.7	106.8	5.6	5.0	2.5	24.1	0.19	28	123	150	191

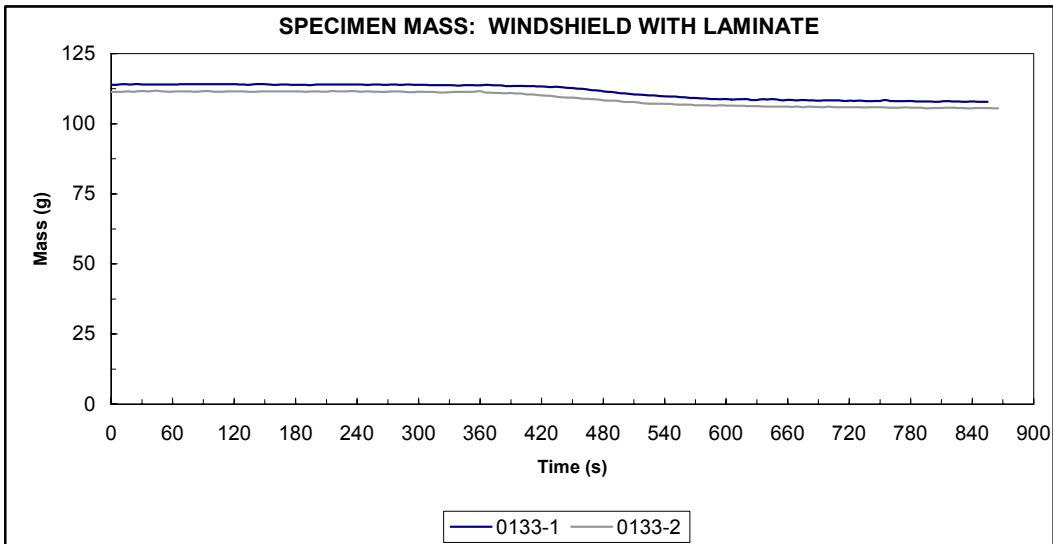
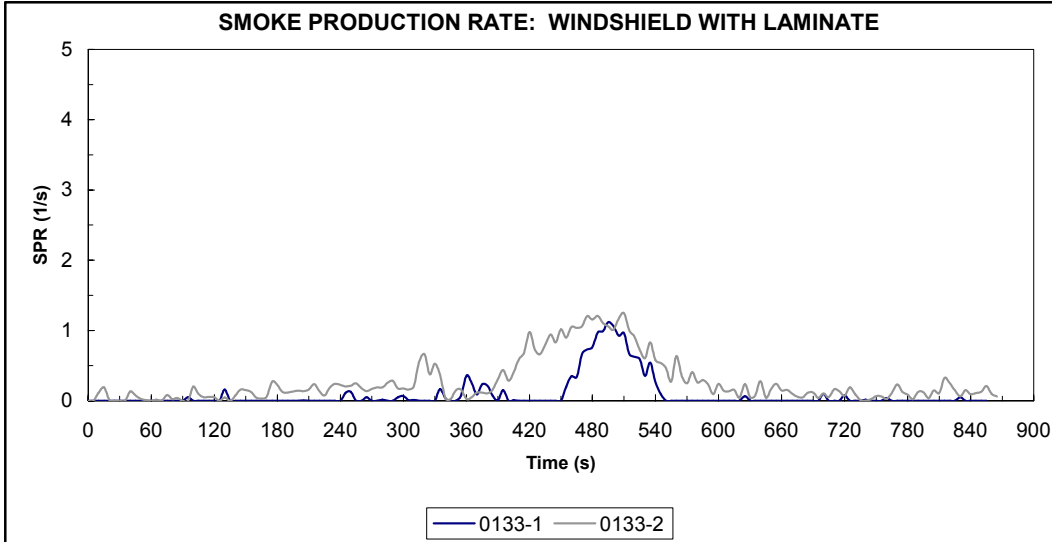


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
Vehicle Model: 1997 Camaro

Material ID: Windshield with Laminate
Heat Flux: 20 kW/m²

(Page 2)



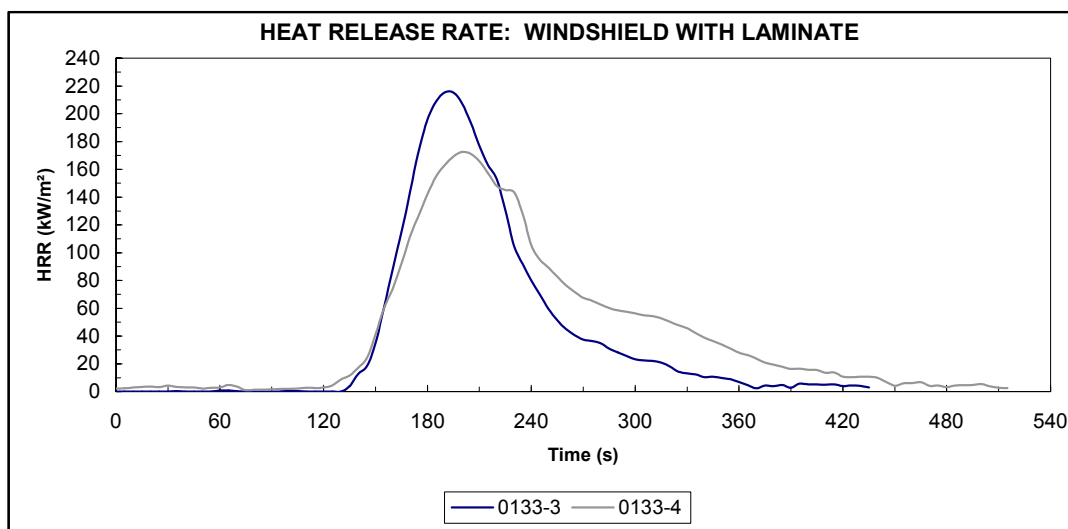
Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

<i>Vehicle Make:</i> Chevrolet	<i>Material ID:</i> Windshield with Laminate
<i>Vehicle Model:</i> 1997 Camaro	<i>Heat Flux:</i> 35 kW/m ²
<i>Orientation:</i> Horizontal	<i>Sample Area:</i> 0.00884 m ²
<i>Frame:</i> Yes	<i>Distance:</i> 25 mm
<i>Spark Igniter:</i> Yes	<i>Operator:</i> J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0133-3	01/13/03	113	254	215	190	17.2	47	90	57	204
0133-4	01/13/03	100	348	173	200	20.8	18	87	68	166
<i>Average</i>		106	301	194	195	19.0	33	88	63	185

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
104.3	97.8	6.5	6.2	5.3	23.6	0.44	14	147	161	201
117.4	109.9	7.6	6.5	3.8	24.3	0.38	12	162	174	189
110.9	103.8	7.0	6.3	4.6	23.9	0.41	13	155	167	195

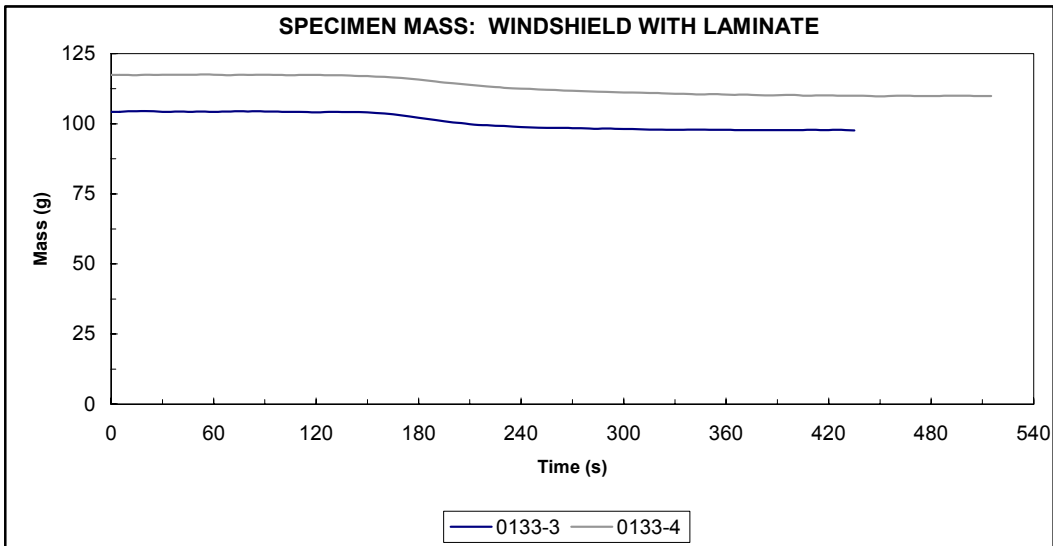
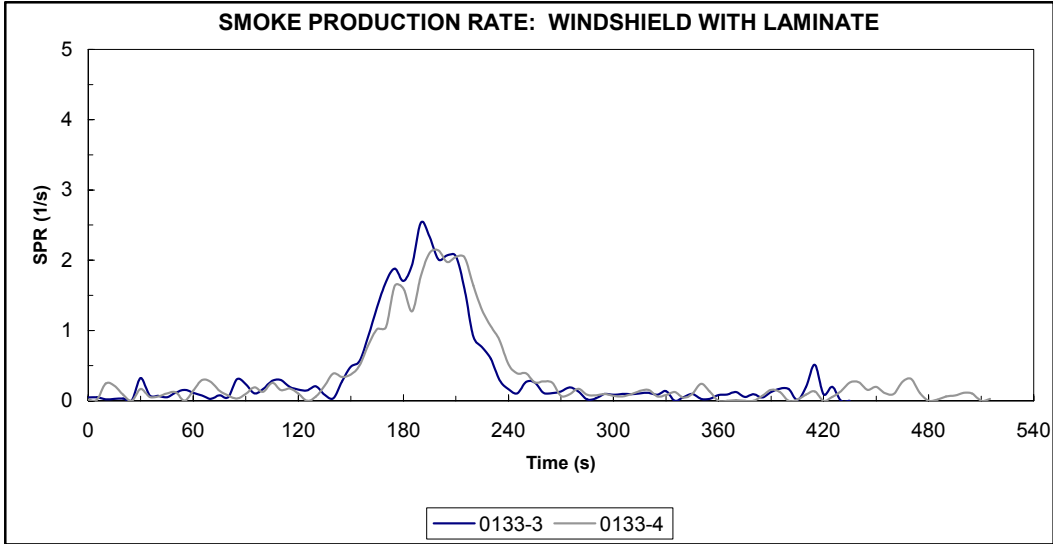


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
Vehicle Model: 1997 Camaro

Material ID: Windshield with Laminate
Heat Flux: 35 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
 Vehicle Model: 1997 Camaro

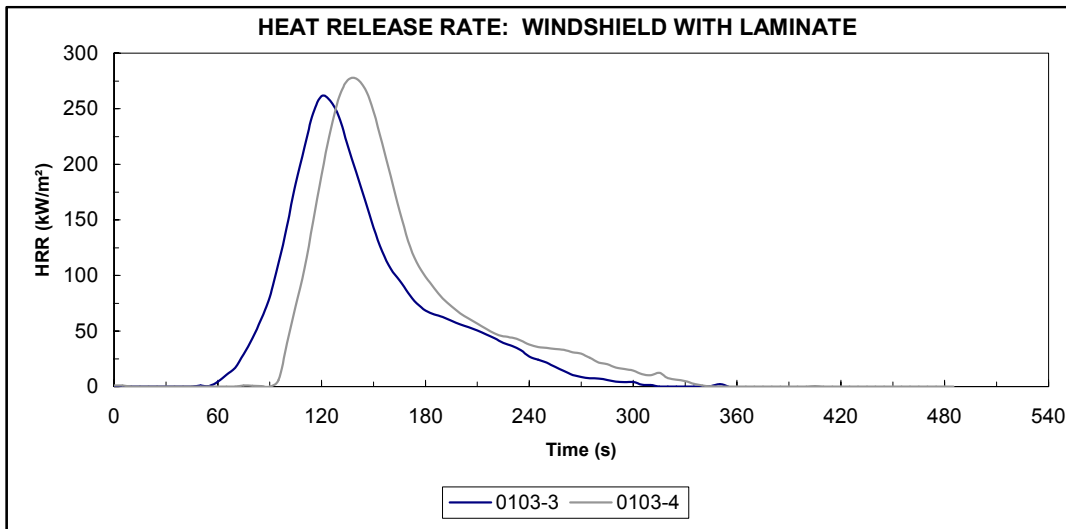
Material ID: Windshield with Laminate
 Heat Flux: 50 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0103-3	01/10/03	39	247	261	120	19.3	36	100	65	238
0103-4	01/10/03	86	245	277	140	20.4	145	108	68	259
Average		62	246	269	130	19.9	90	104	66	248

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
108.8	101.5	7.1	6.5	5.6	24.0	0.56	4	158	162	196
114.9	107.5	7.3	6.3	5.5	24.8	0.53	15	162	177	197
111.9	104.5	7.2	6.4	5.5	24.4	0.54	9	160	169	196

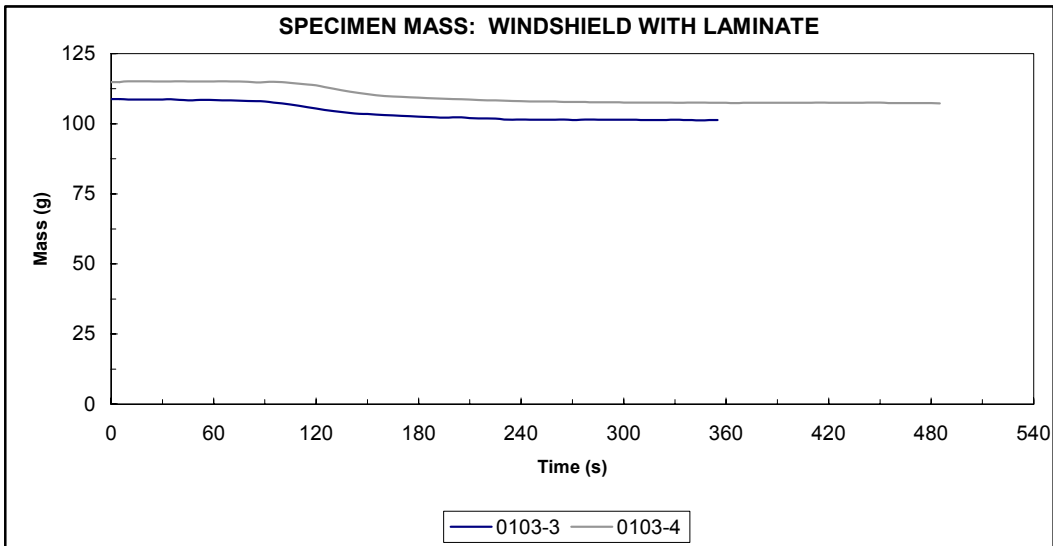
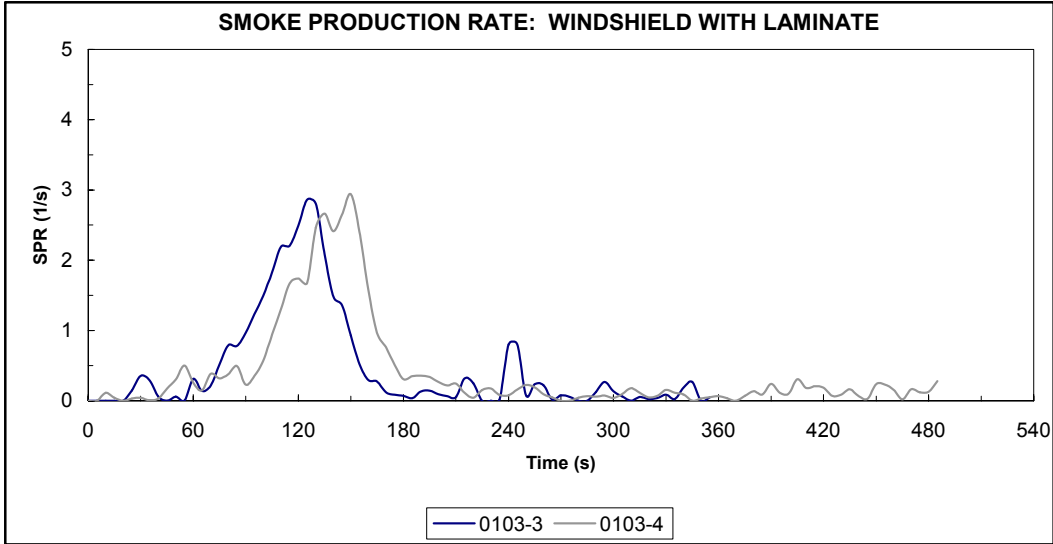


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
Vehicle Model: 1997 Camaro

Material ID: Windshield with Laminate
Heat Flux: 50 kW/m²

(Page 2)



Notes & Observations:

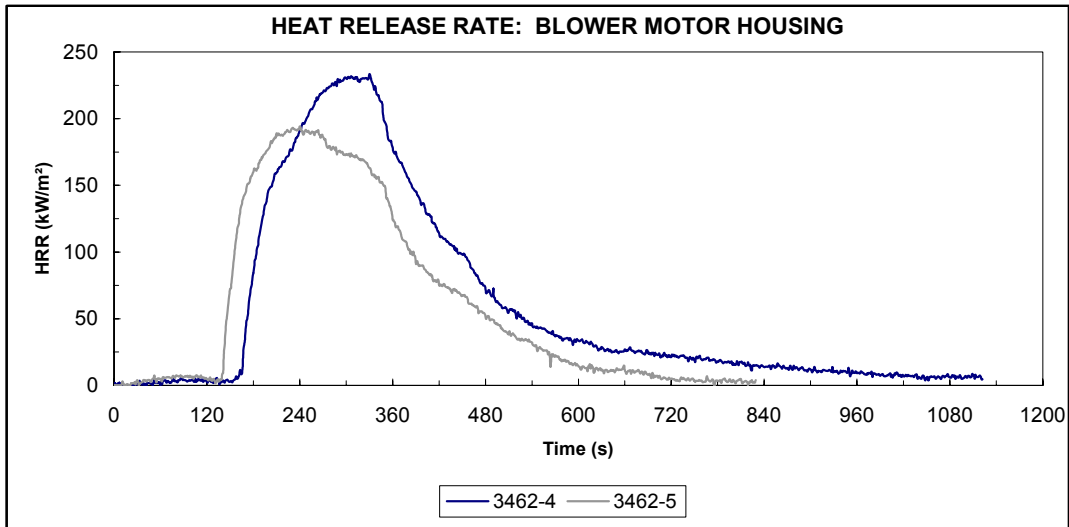
ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make:	Chevrolet	Material ID:	Blower Motor Housing
Vehicle Model:	1997 Camaro	Heat Flux:	20 kW/m ²
Orientation:	Horizontal	Sample Area:	0.00884 m ²
Frame:	Yes	Distance:	25 mm
Spark Igniter:	Yes	Operator:	J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
3462-4	12/12/02	140	982*	233	330	64.2	54	153	157	230
3462-5	12/12/02	136	663	194	240	50.8	116	161	143	191
<i>Average</i>		138	822	214	285	57.5	85	157	150	211

* Specimen still flaming at the end of the test.

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
28.4	11.5	16.3	57.3	3.7	34.9	0.52	12	569	580	309
27.7	12.5	14.7	53.2	4.6	30.5	0.71	14	550	564	330
28.1	12.0	15.5	55.3	4.2	32.7	0.61	13	560	572	319

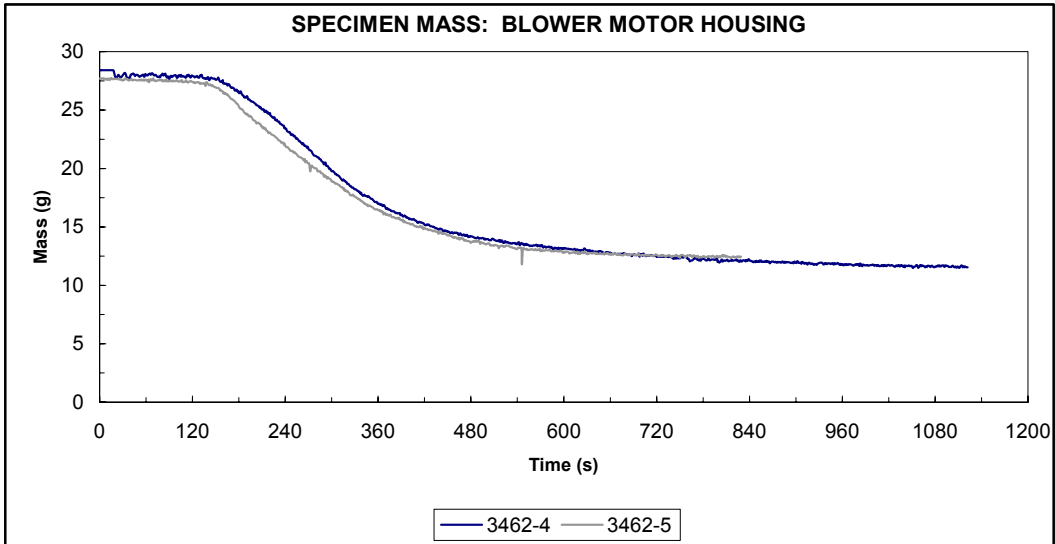
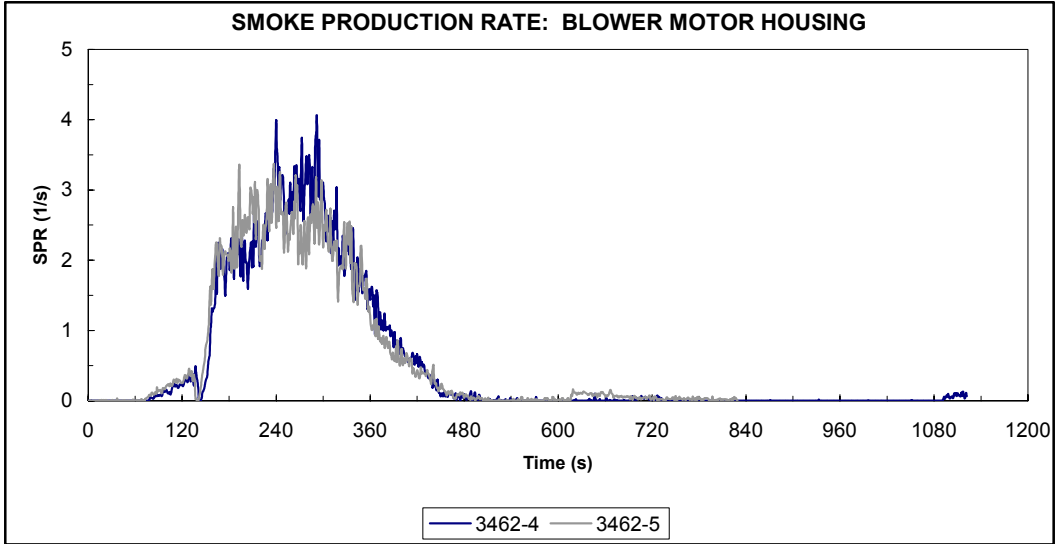


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
Vehicle Model: 1997 Camaro

Material ID: Blower Motor Housing
Heat Flux: 20 kW/m²

(Page 2)



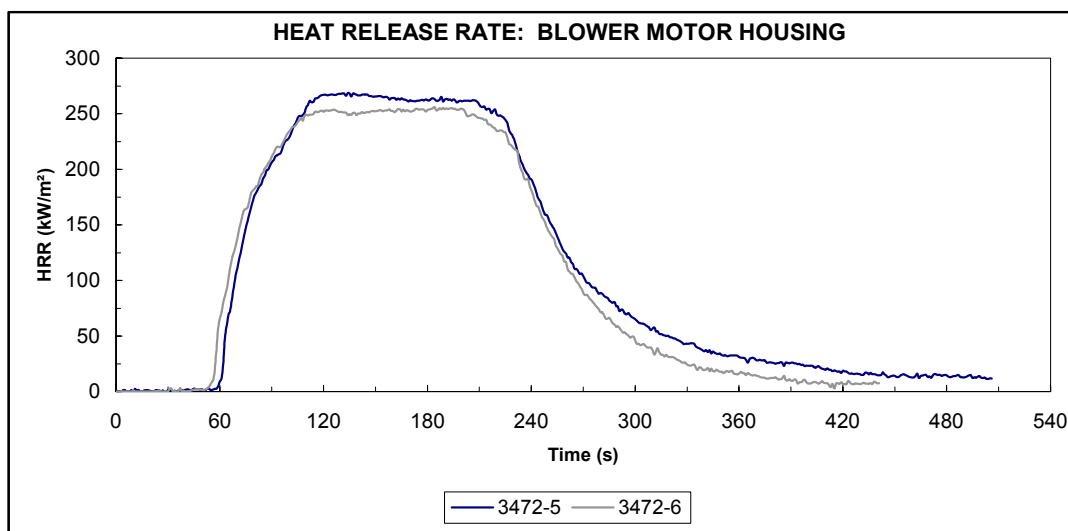
Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make:	Chevrolet	Material ID:	Blower Motor Housing
Vehicle Model:	1997 Camaro	Heat Flux:	35 kW/m ²
Orientation:	Horizontal	Sample Area:	0.00884 m ²
Frame:	Yes	Distance:	25 mm
Spark Igniter:	Yes	Operator:	J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
3472-5	12/13/02	50	412	269	134	53.5	144	222	170	267
3472-6	12/13/02	42	333	256	184	49.1	125	209	162	254
Average		46	372	262	159	51.3	134	215	166	261

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
24.8	10.4	14.4	58.0	6.6	32.9	1.59	8	728	736	448
23.2	9.8	13.4	57.8	7.2	32.4	2.00	4	747	751	492
24.0	10.1	13.9	57.9	6.9	32.6	1.79	6	738	744	470

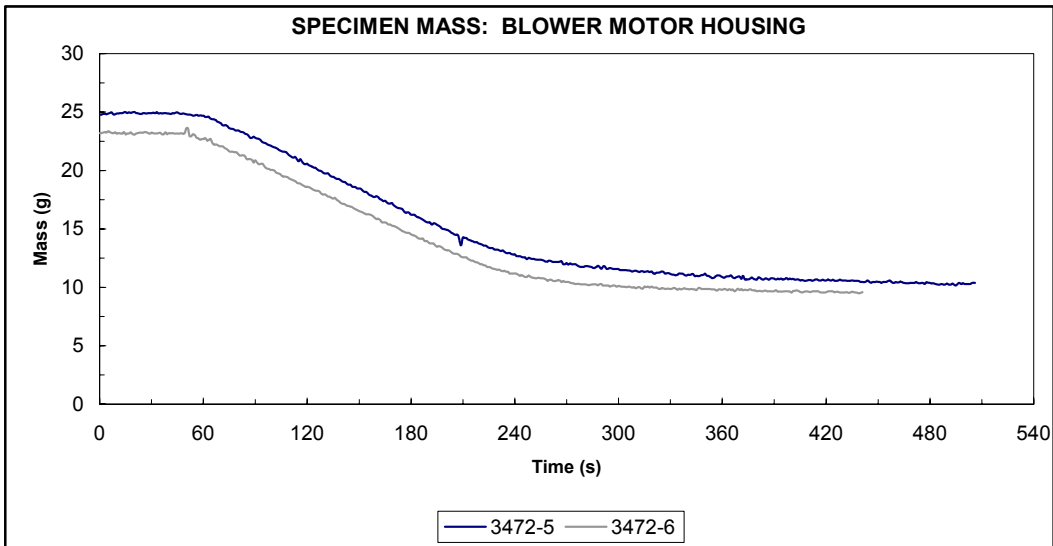
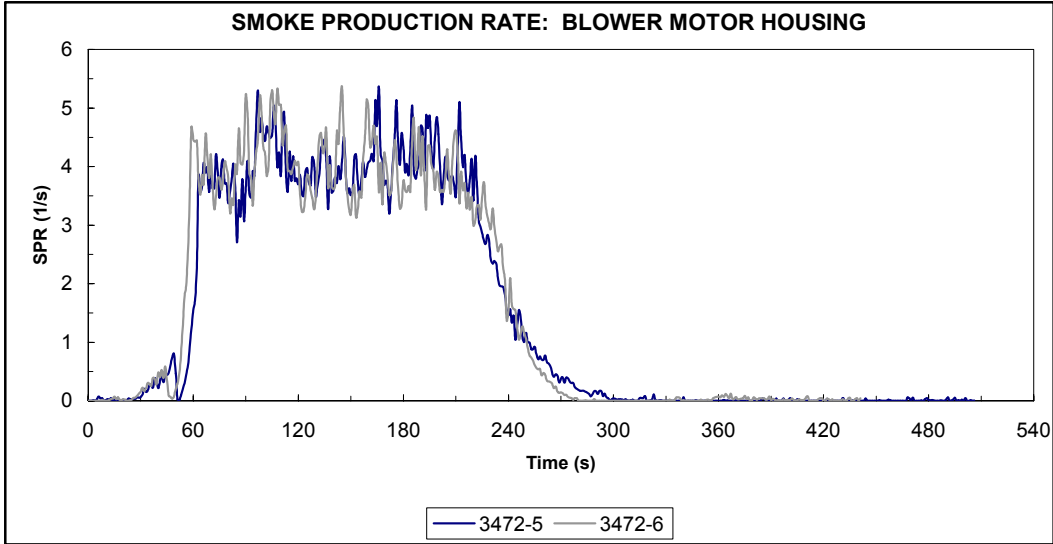


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
Vehicle Model: 1997 Camaro

Material ID: Blower Motor Housing
Heat Flux: 35 kW/m²

(Page 2)



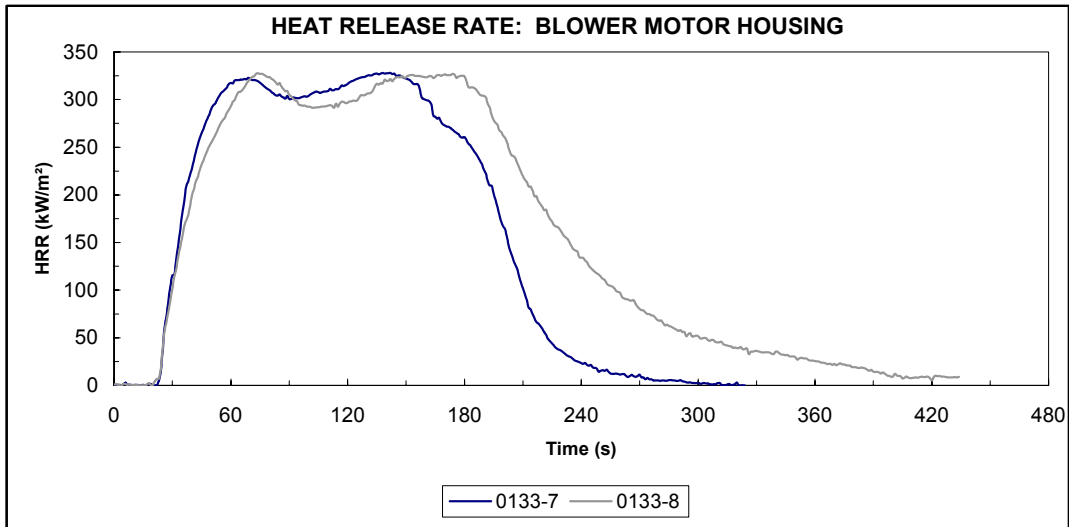
Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make:	Chevrolet	Material ID:	Blower Motor Housing
Vehicle Model:	1997 Camaro	Heat Flux:	50 kW/m ²
Orientation:	Horizontal	Sample Area:	0.00884 m ²
Frame:	Yes	Distance:	25 mm
Spark Igniter:	Yes	Operator:	J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0133-7	01/13/03	26	239	328	142	52.5	266	278	175	325
0133-8	01/13/03	23	353	328	74	65.7	238	284	214	325
<i>Average</i>		24	296	328	108	59.1	252	281	194	325

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
23.2	9.9	13.1	56.4	8.7	35.4	3.98	8	1049	1057	708
23.2	7.1	16.3	70.1	8.0	35.7	2.98	4	1118	1123	608
23.2	8.5	14.7	63.3	8.4	35.6	3.48	6	1084	1090	658

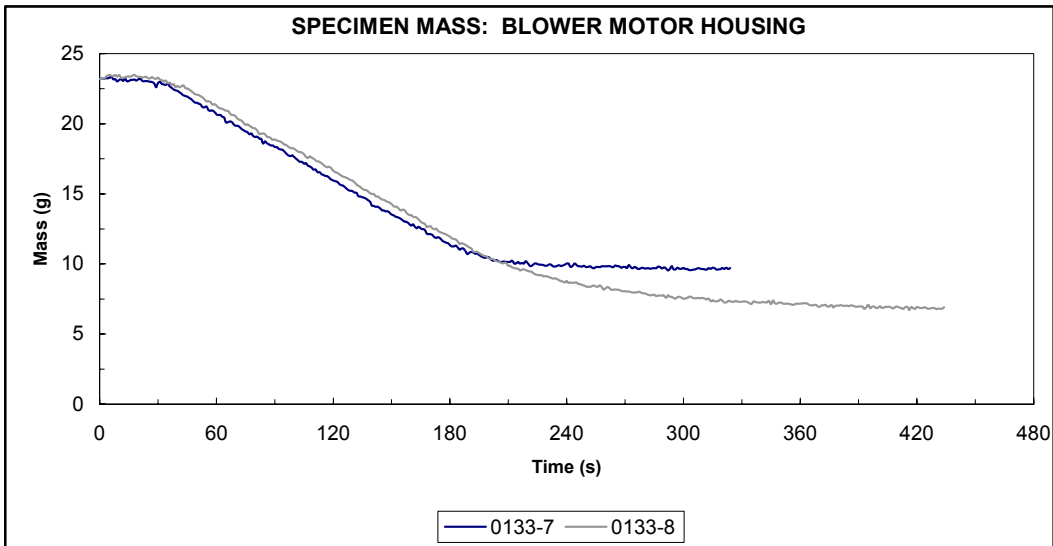
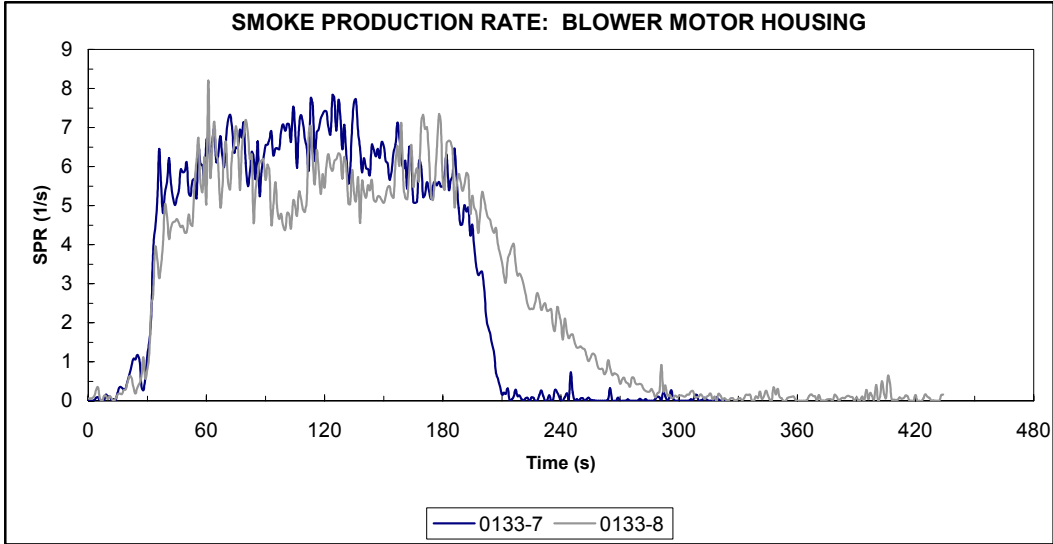


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
Vehicle Model: 1997 Camaro

Material ID: Blower Motor Housing
Heat Flux: 50 kW/m²

(Page 2)



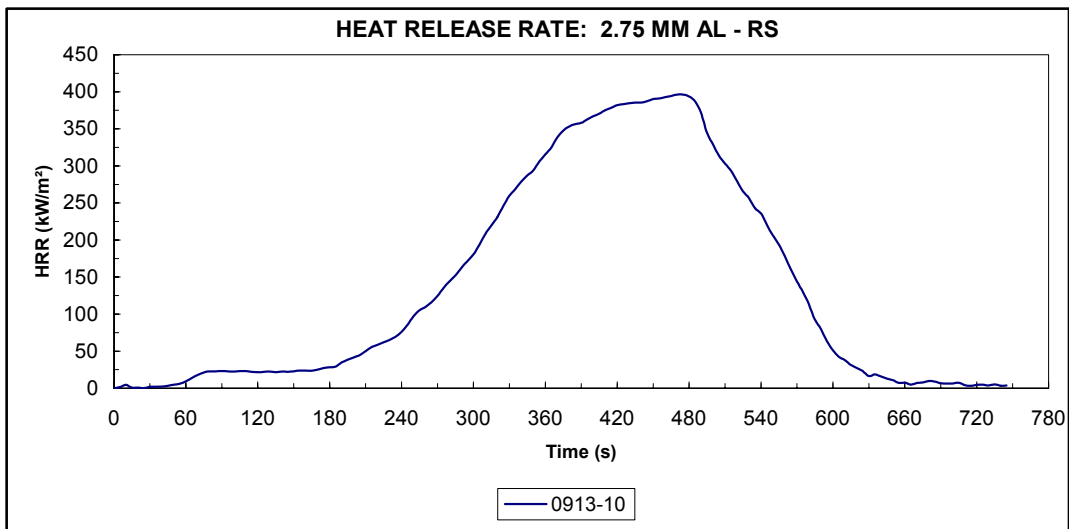
Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

<i>Vehicle Make:</i> Dodge	<i>Material ID:</i> 2.75 mm Al - RS
<i>Vehicle Model:</i> 1996 Caravan	<i>Heat Flux:</i> 50 kW/m ²
<i>Orientation:</i> Horizontal	<i>Sample Area:</i> 0.00868 m ²
<i>Frame:</i> Yes	<i>Distance:</i> 25 mm
<i>Spark Igniter:</i> Yes	<i>Operator:</i> J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0913-10	04/01/03	34	649	396	475	102.1	13	23	71	394
<i>Average</i>		34	649	396	475	102.1	13	23	71	394

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
30.4	6.6	24.3	79.8	8.6	36.5	2.79	1	1924	1925	688
30.4	6.6	24.3	79.8	8.6	36.5	2.79	1	1924	1925	688

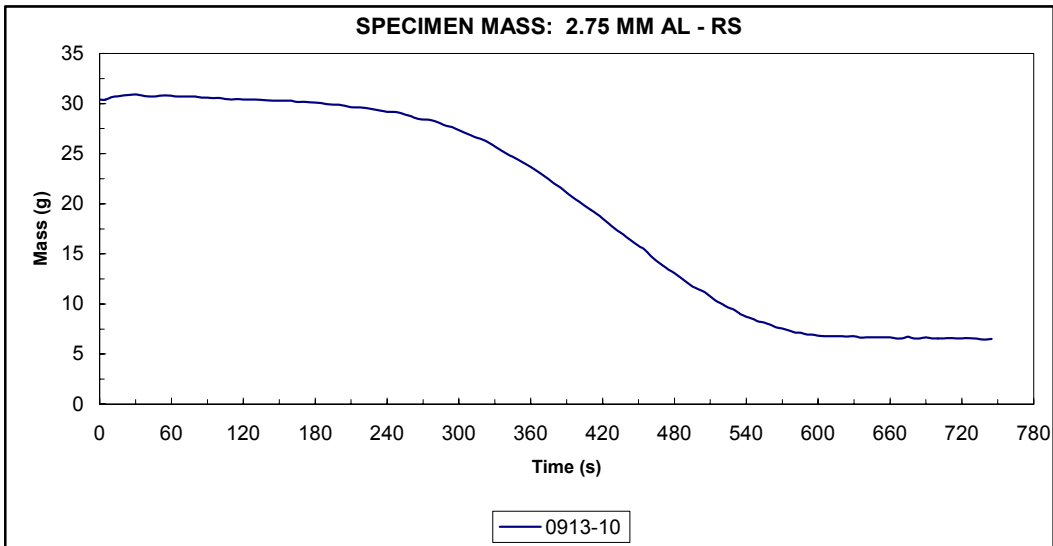
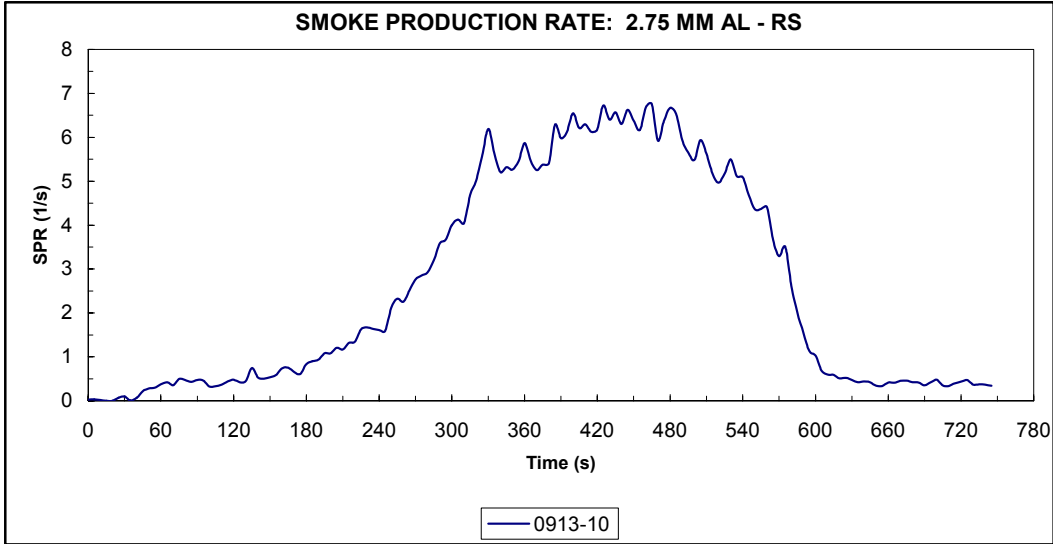


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: 2.75 mm Al - RS
Heat Flux: 50 kW/m²

(Page 2)



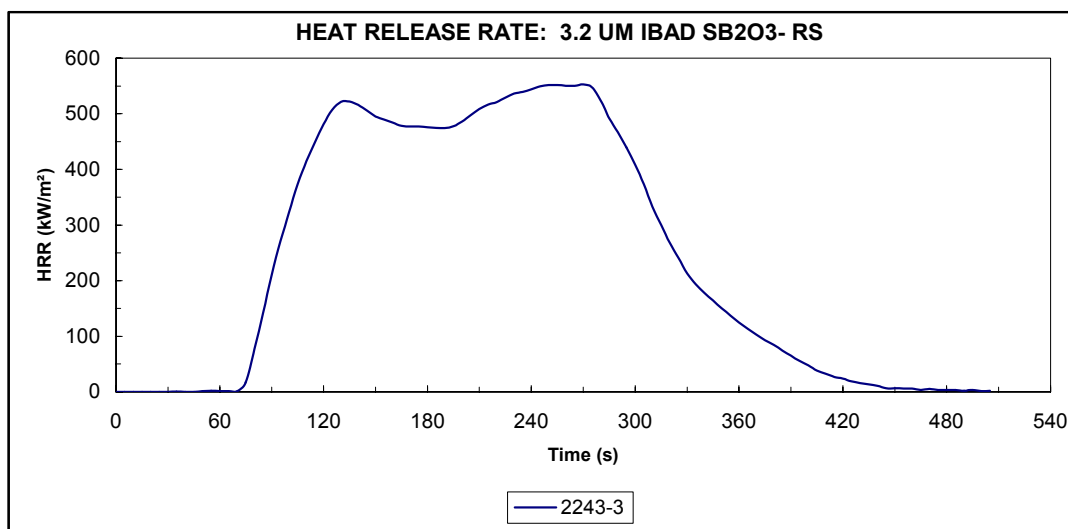
Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

<i>Vehicle Make:</i> Dodge	<i>Material ID:</i> 3.2 um IBAD Sb2O3- RS
<i>Vehicle Model:</i> 1996 Caravan	<i>Heat Flux:</i> 50 kW/m ²
<i>Orientation:</i> Horizontal	<i>Sample Area:</i> 0.00884 m ²
<i>Frame:</i> Yes	<i>Distance:</i> 25 mm
<i>Spark Igniter:</i> Yes	<i>Operator:</i> J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
2243-3	08/12/03	74	369	553	270	122.4	337	450	399	551
<i>Average</i>		74	369	553	270	122.4	337	450	399	551

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
29.8	6.6	23.3	78.3	10.8	46.4	3.80	10	1700	1710	644
29.8	6.6	23.3	78.3	10.8	46.4	3.80	10	1700	1710	644

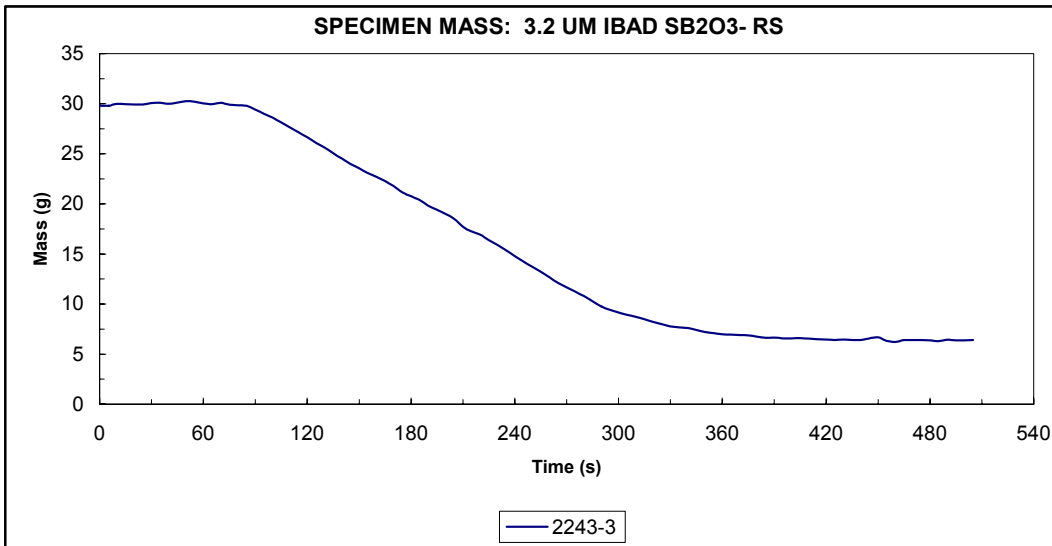
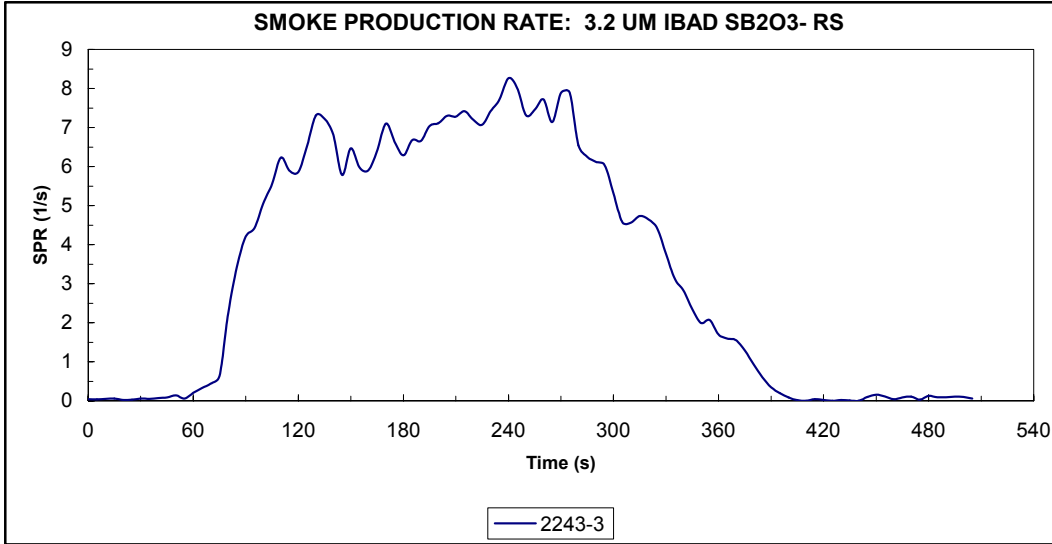


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: 3.2 um IBAD Sb2O3- RS
Heat Flux: 50 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Client: NHTSA
SwRI Project No: 01.05804.01.005

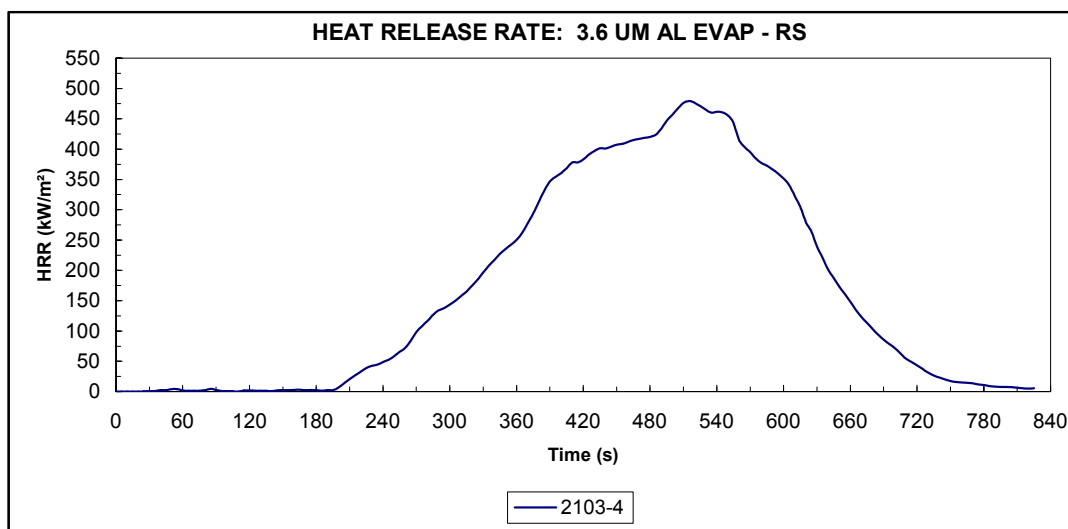
Material ID: 3.6 um Al Evap - RS
Heat Flux: 50 kW/m²

Orientation: Horizontal
Frame: Yes
Spark Igniter: Yes

Sample Area: 0.00847 m²
Distance: 25 mm
Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
2103-4	07/29/03	184	581	479	515	135.9	26	112	217	472
<i>Average</i>		184	581	479	515	135.9	26	112	217	472

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
35.2	7.1	28.0	79.5	9.3	41.1	2.86	2	2197	2199	665
35.2	7.1	28.0	79.5	9.3	41.1	2.86	2	2197	2199	665

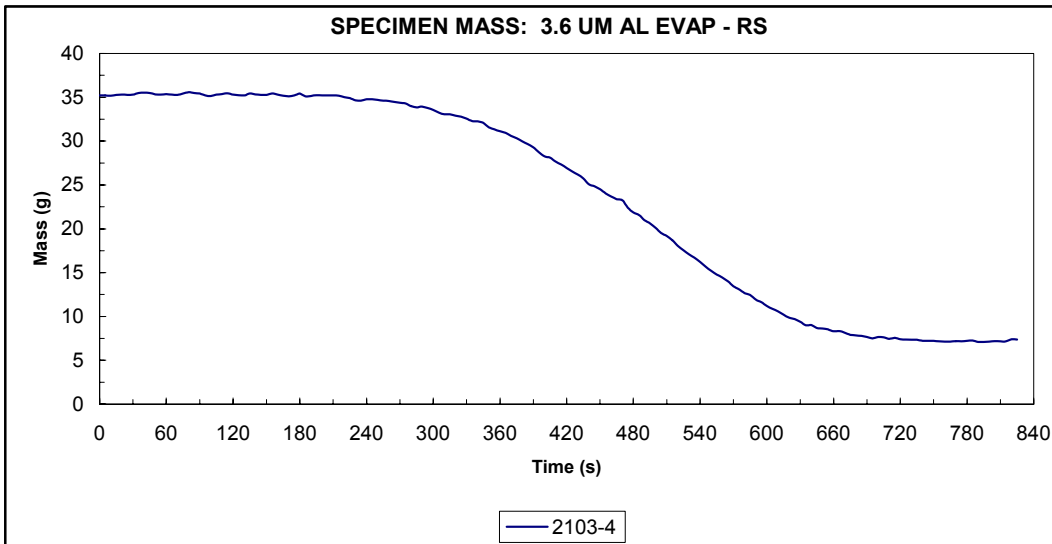
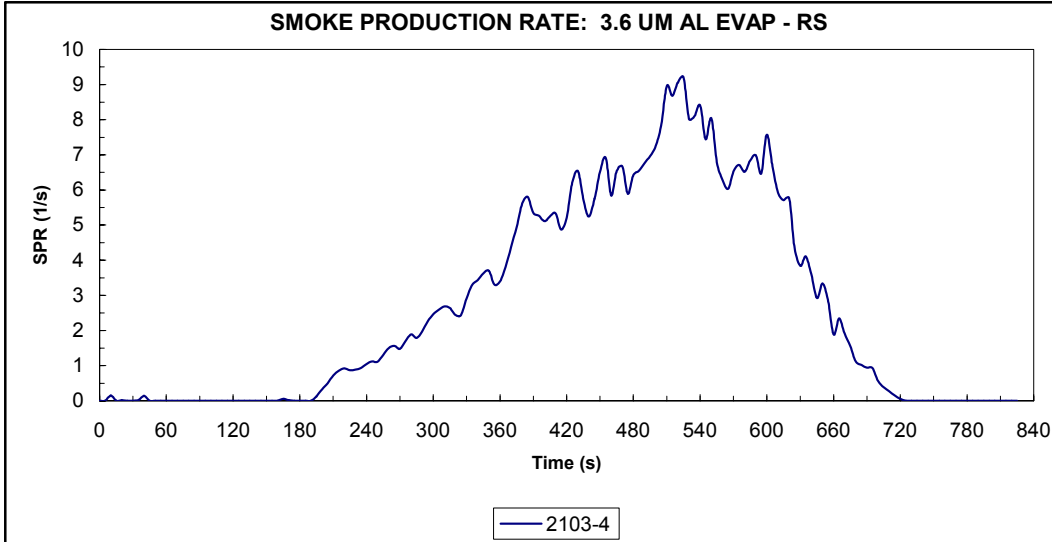


ASTM E 1354 CONE CALORIMETER TEST REPORT

Client: NHTSA
SwRI Project No: 01.05804.01.005

Material ID: 3.6 um Al Evap - RS
Heat Flux: 50 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
 Vehicle Model: 1996 Caravan

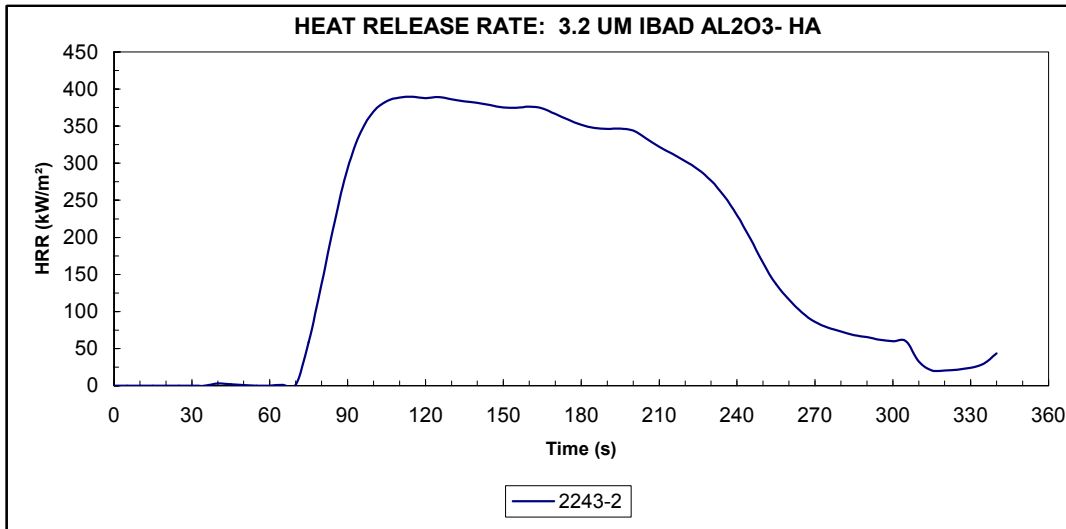
Material ID: 3.2 um IBAD Al2O3- HA
 Heat Flux: 50 kW/m²

Orientation: Horizontal
 Frame: Yes
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
2243-2	08/11/03	73	233	389	115	61.9	326	322	207	387
<i>Average</i>		73	233	389	115	61.9	326	322	207	387

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
26.3	3.5	22.4	85.0	15.0	24.5	7.52	10	2322	2331	918
26.3	3.5	22.4	85.0	15.0	24.5	7.52	10	2322	2331	918

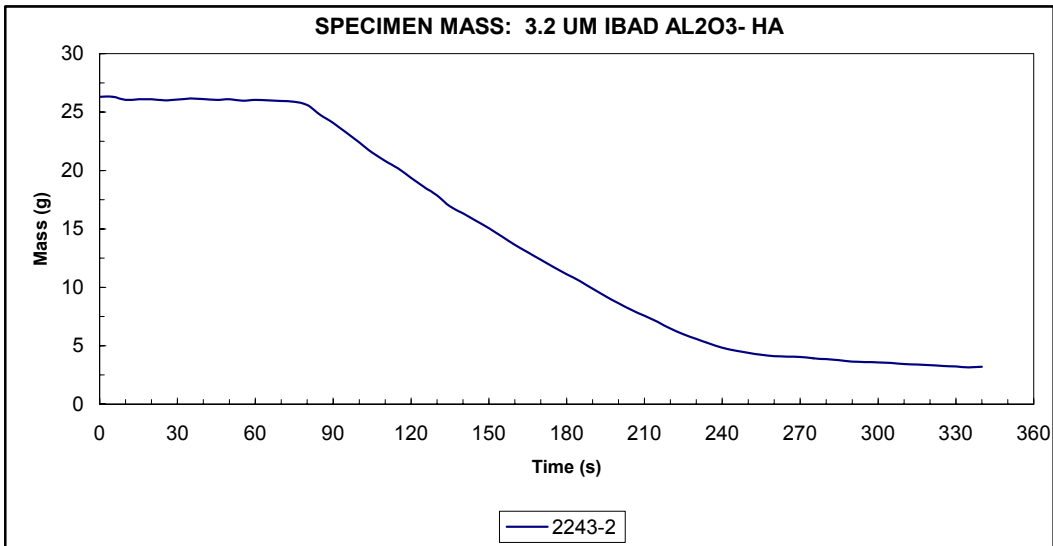
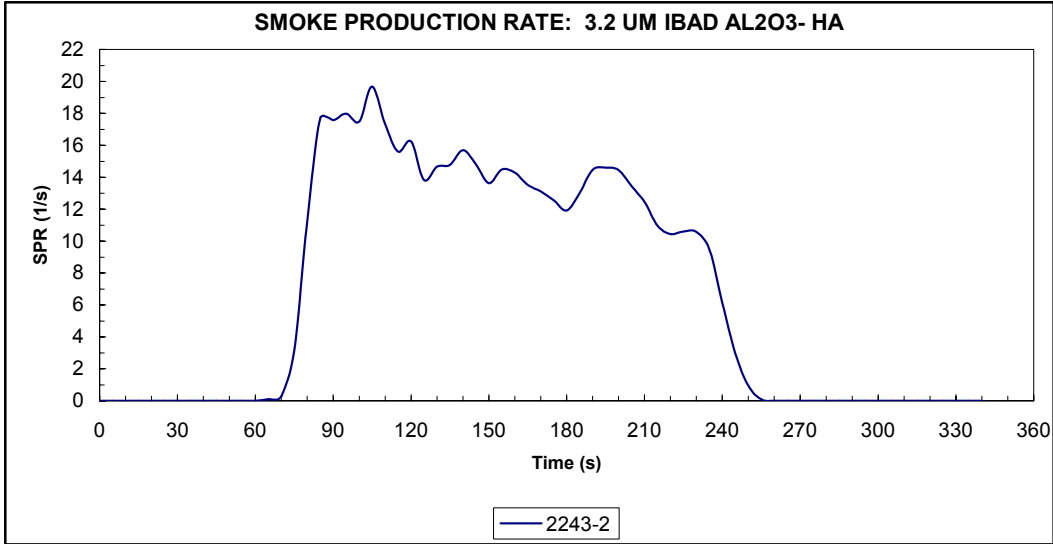


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Dodge
Vehicle Model: 1996 Caravan

Material ID: 3.2 um IBAD Al2O3- HA
Heat Flux: 50 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Client: NHTSA
SwRI Project No: 01.05804.01.005

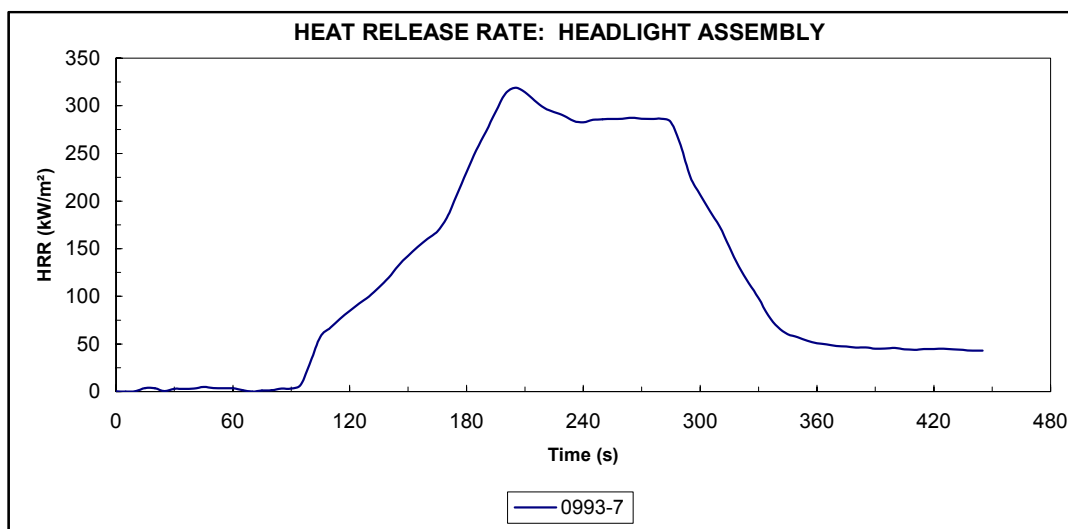
Material ID: Al Coating - HA
Heat Flux: 50 kW/m²

Orientation: Horizontal
Frame: Yes
Spark Igniter: Yes

Sample Area: 0.00821 m²
Distance: 25 mm
Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0993-7	04/09/03	100	281	319	205	51.4	102	216	172	307
<i>Average</i>		100	281	319	205	51.4	102	216	172	307

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
26.8	5.1	21.6	80.8	14.1	19.5	6.04	16	2310	2326	876
26.8	5.1	21.6	80.8	14.1	19.5	6.04	16	2310	2326	876

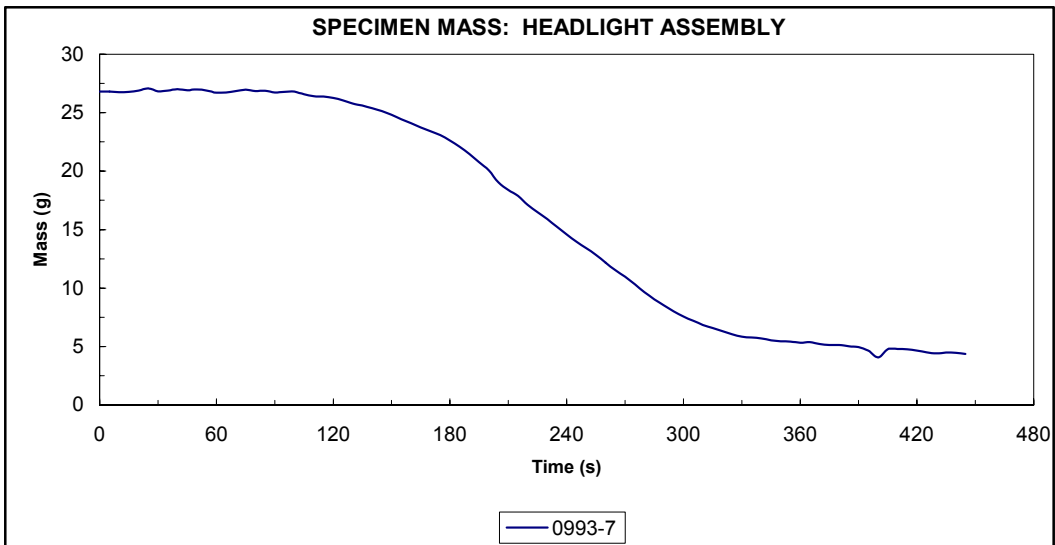
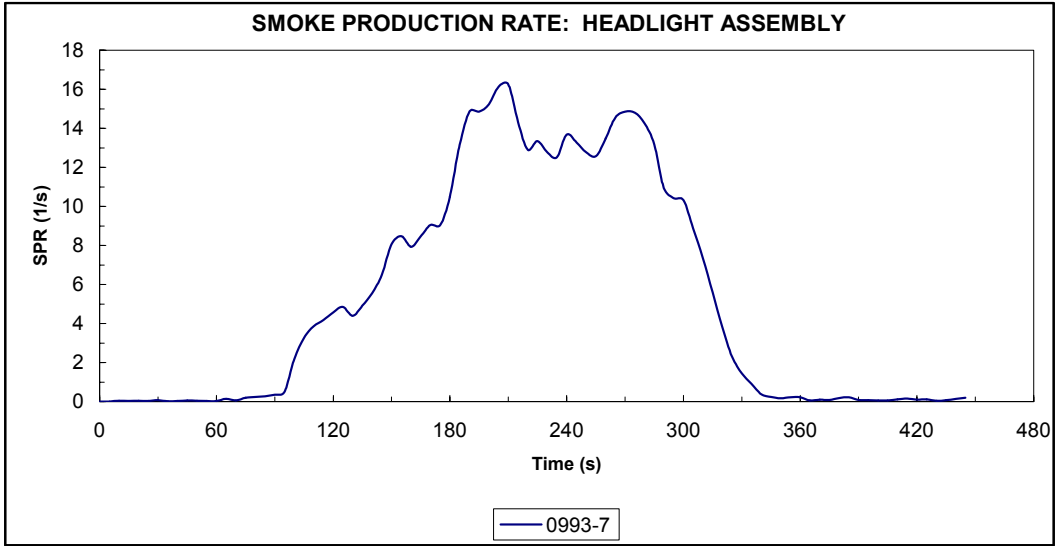


ASTM E 1354 CONE CALORIMETER TEST REPORT

Client: NHTSA
SwRI Project No: 01.05804.01.005

Material ID: Al Coating - HA
Heat Flux: 50 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Client: NHTSA
SwRI Project No: 01.05804.01.005

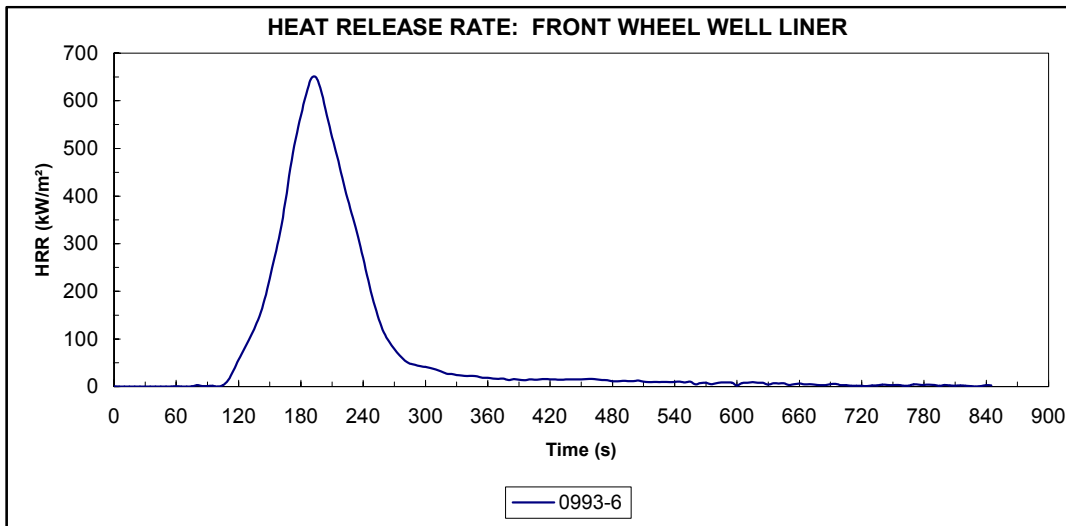
Material ID: Al Coating - FWWL
Heat Flux: 50 kW/m²

Orientation: Horizontal
Frame: Yes
Spark Igniter: Yes

Sample Area: 0.00884 m²
Distance: 25 mm
Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0993-6	04/09/03	100	351	648	195	55.3	116	286	182	607
<i>Average</i>		100	351	648	195	55.3	116	286	182	607

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
19.5	2.7	16.9	86.5	17.0	29.0	1.35	6	607	613	318
19.5	2.7	16.9	86.5	17.0	29.0	1.35	6	607	613	318

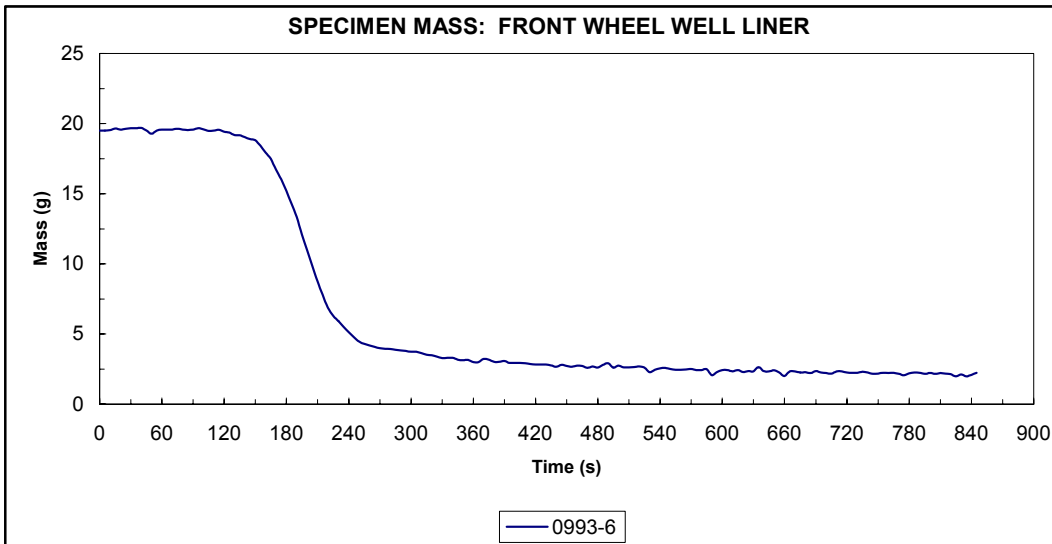
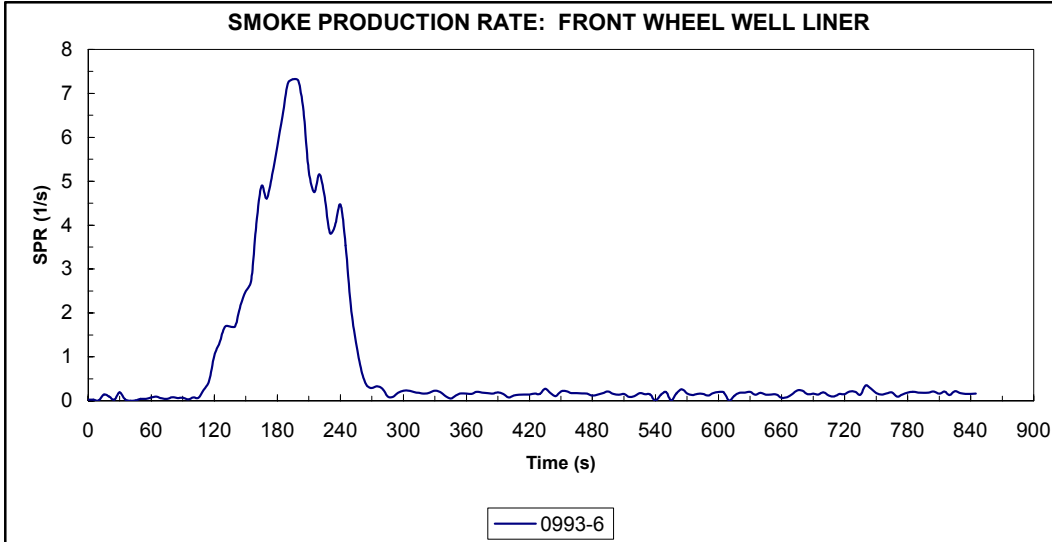


ASTM E 1354 CONE CALORIMETER TEST REPORT

Client: NHTSA
SwRI Project No: 01.05804.01.005

Material ID: Al Coating - FWWL
Heat Flux: 50 kW/m²

(Page 2)



Notes & Observations:

This sample had a slight crease down the middle. It was along this crease that ignition occurred.

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
 Vehicle Model: 1997 Camaro

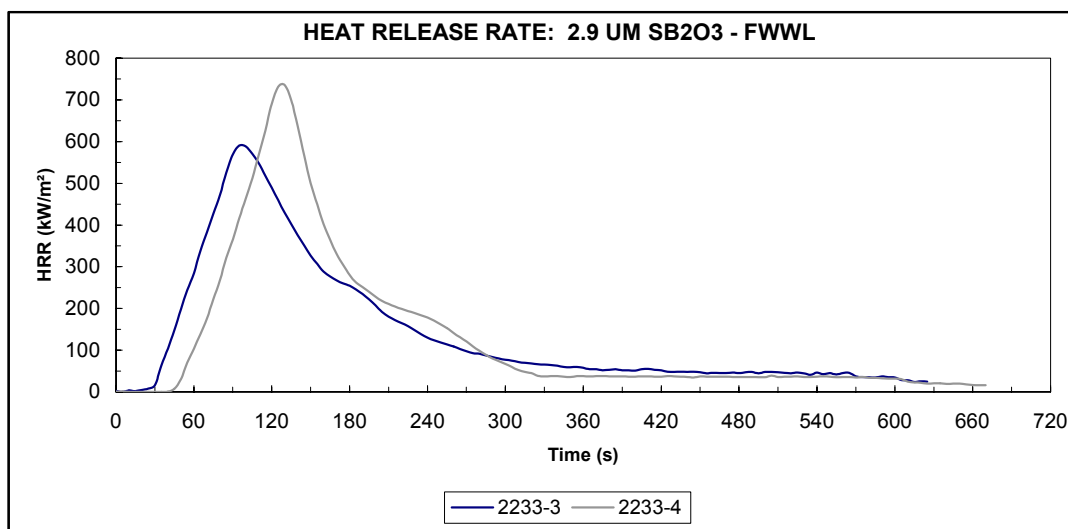
Material ID: 2.9 um Sb2O3 - FWWL
 Heat Flux: 50 kW/m²

Orientation: Horizontal
 Frame: Yes, with Grid
 Spark Igniter: Yes

Sample Area: 0.00884 m²
 Distance: 25 mm
 Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
2233-3	08/11/03	24	540	590	95	85.8	245	336	246	565
2233-4	08/11/03	41	567	736	130	86.0	196	352	254	681
Average		32	554	663	113	85.9	220	344	250	623

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
23.7	6.8	16.7	70.3	4.4	45.6	1.56	2	887	889	471
24.8	5.7	19.1	77.0	8.4	39.8	1.34	1	823	824	381
24.3	6.3	17.9	73.6	6.4	42.7	1.45	2	855	857	426

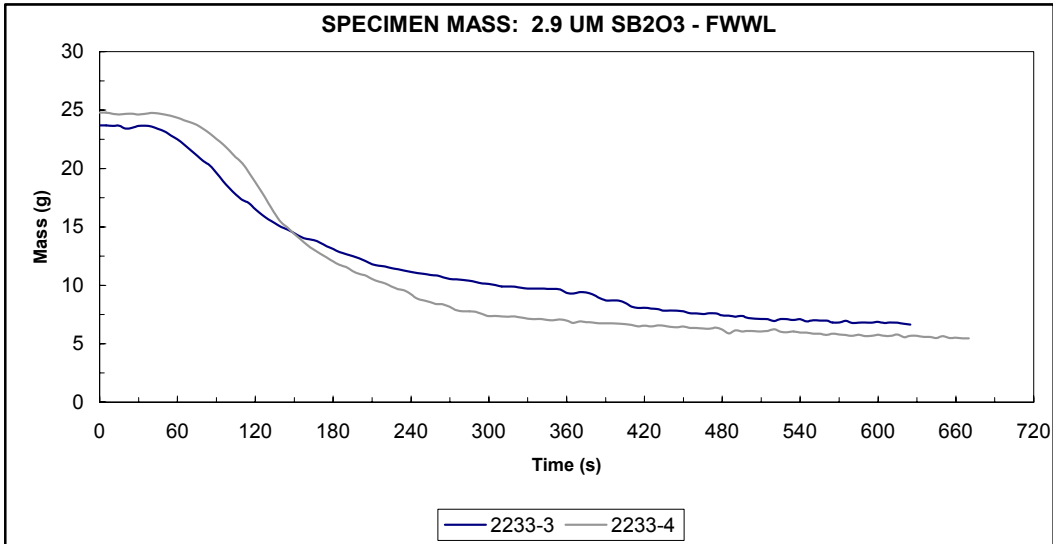
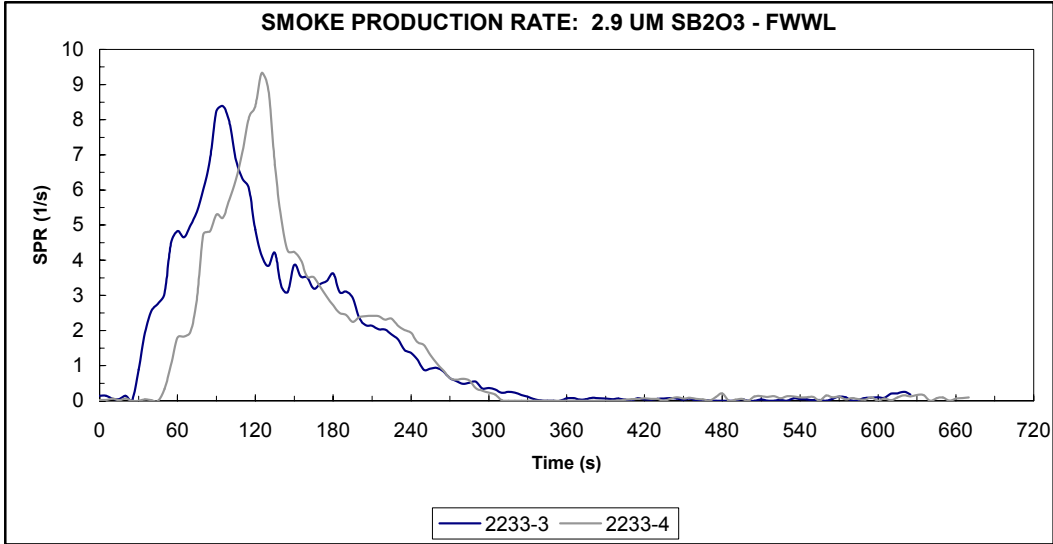


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
Vehicle Model: 1997 Camaro

Material ID: 2.9 um Sb2O3 - FWWL
Heat Flux: 50 kW/m²

(Page 2)



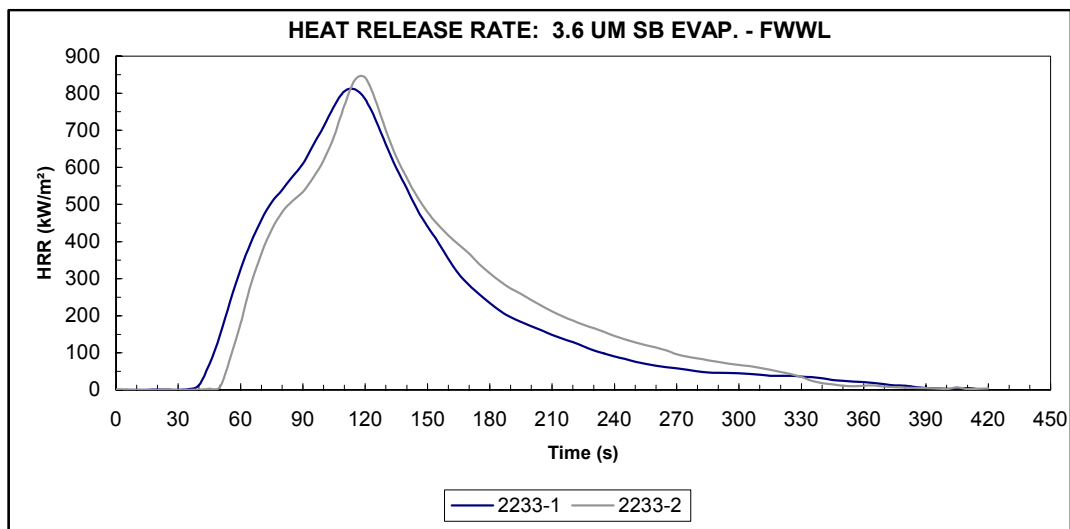
Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make:	Chevrolet	Material ID:	3.6 um Sb Evap. - FWWL
Vehicle Model:	1997 Camaro	Heat Flux:	50 kW/m ²
Orientation:	Horizontal	Sample Area:	0.00884 m ²
Frame:	Yes	Distance:	25 mm
Spark Igniter:	Yes	Operator:	J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
2233-1	08/11/03	39	311	810	115	82.5	407	416	274	763
2233-2	08/11/03	60	294	843	120	85.3	550	429	284	764
<i>Average</i>		50	302	826	118	83.9	479	422	279	763

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
24.1	7.2	17.3	72.0	9.8	42.0	2.57	5	908	912	463
25.2	4.8	20.3	80.5	9.7	37.2	2.71	9	966	974	421
24.7	6.0	18.8	76.2	9.7	39.6	2.64	7	937	943	442

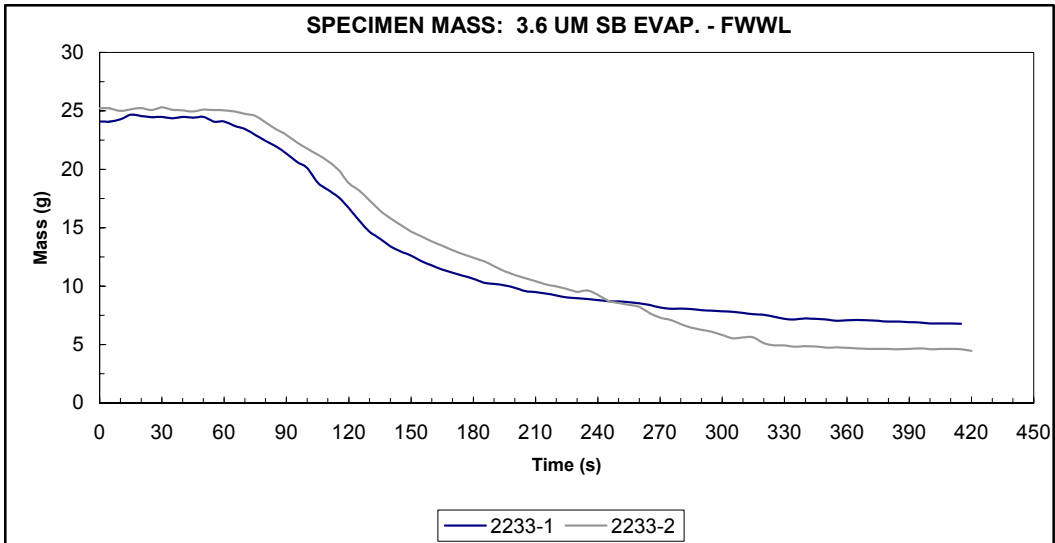
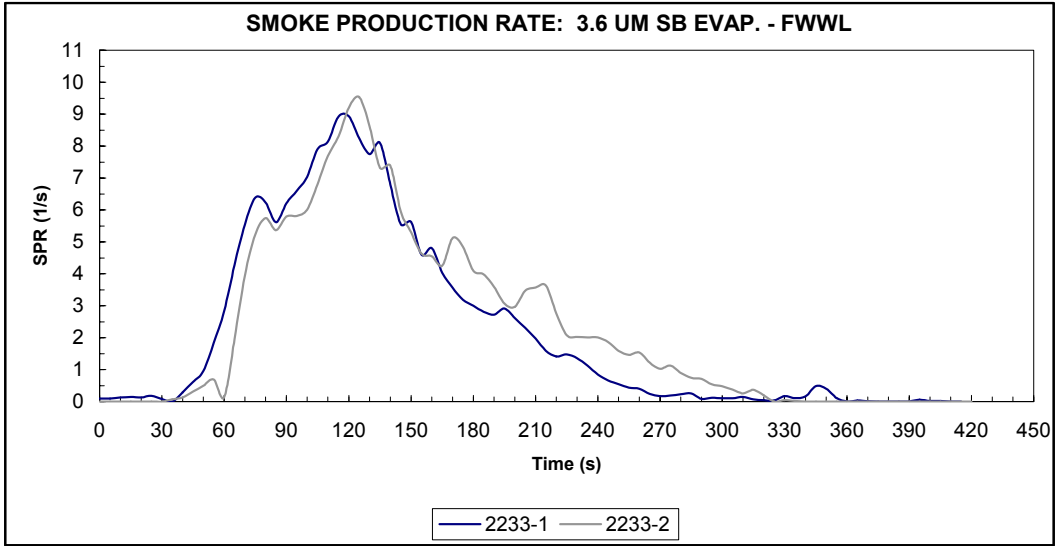


ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
Vehicle Model: 1997 Camaro

Material ID: 3.6 um Sb Evap. - FWWL
Heat Flux: 50 kW/m²

(Page 2)



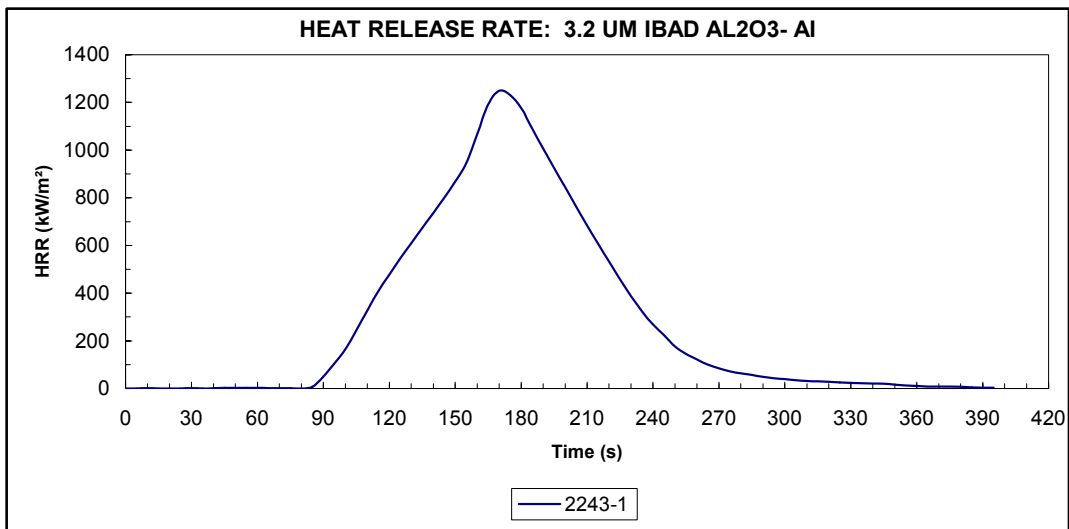
Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

<i>Vehicle Make:</i> Chevrolet	<i>Material ID:</i> 3.2 um IBAD Al2O3- Al
<i>Vehicle Model:</i> 1997 Camaro	<i>Heat Flux:</i> 50 kW/m ²
<i>Orientation:</i> Horizontal	<i>Sample Area:</i> 0.00884 m ²
<i>Frame:</i> Yes	<i>Distance:</i> 25 mm
<i>Spark Igniter:</i> Yes	<i>Operator:</i> J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
2243-1	08/12/03	84	249	1249	170	110.6	395	597	369	1162
<i>Average</i>		84	249	1249	170	110.6	395	597	369	1162

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
21.2	0.9	20.9	98.6	18.9	46.8	3.42	4	1158	1162	490
21.2	0.9	20.9	98.6	18.9	46.8	3.42	4	1158	1162	490



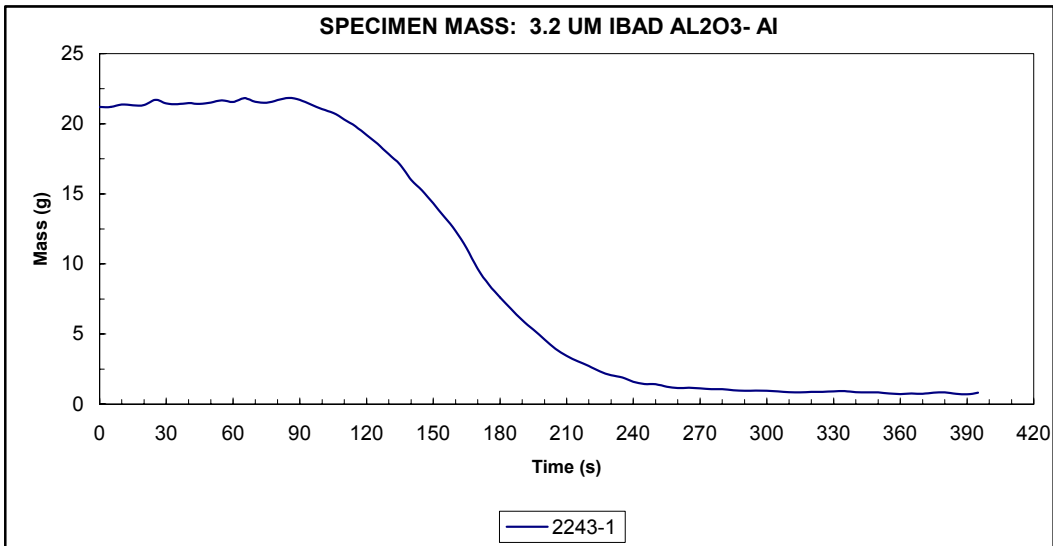
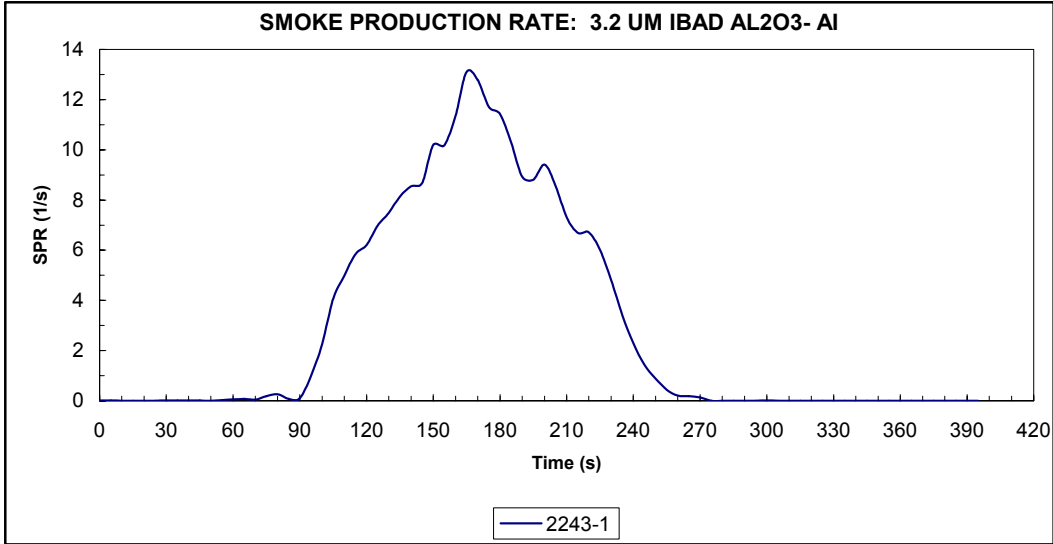
537.0 656.3

ASTM E 1354 CONE CALORIMETER TEST REPORT

Vehicle Make: Chevrolet
Vehicle Model: 1997 Camaro

Material ID: 3.2 um IBAD Al2O3- Al
Heat Flux: 50 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Client: NHTSA
SwRI Project No: 01.05804.01.005

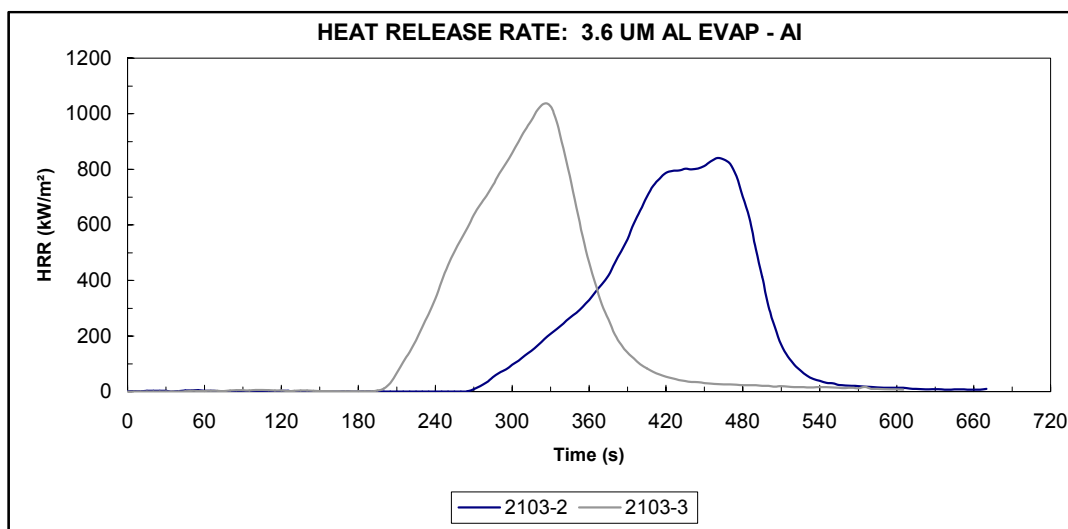
Material ID: 3.6 um Al Evap - Al
Heat Flux: 50 kW/m²

Orientation: Horizontal
Frame: Yes
Spark Igniter: Yes

Sample Area: 0.00847 m²
Distance: 25 mm
Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
2103-2	07/29/03	262	346	841	460	112.3	69	352	372	822
2103-3	07/29/03	191	352	1037	325	109.4	168	551	361	989
Average		226	349	939	393	110.9	119	452	367	905

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
22.8	0.5	22.4	98.3	15.1	42.4	2.31	31	1390	1421	525
22.8	1.2	21.9	96.1	17.3	42.3	2.28	40	1211	1251	468
22.8	0.8	22.2	97.2	16.2	42.4	2.29	36	1301	1336	497

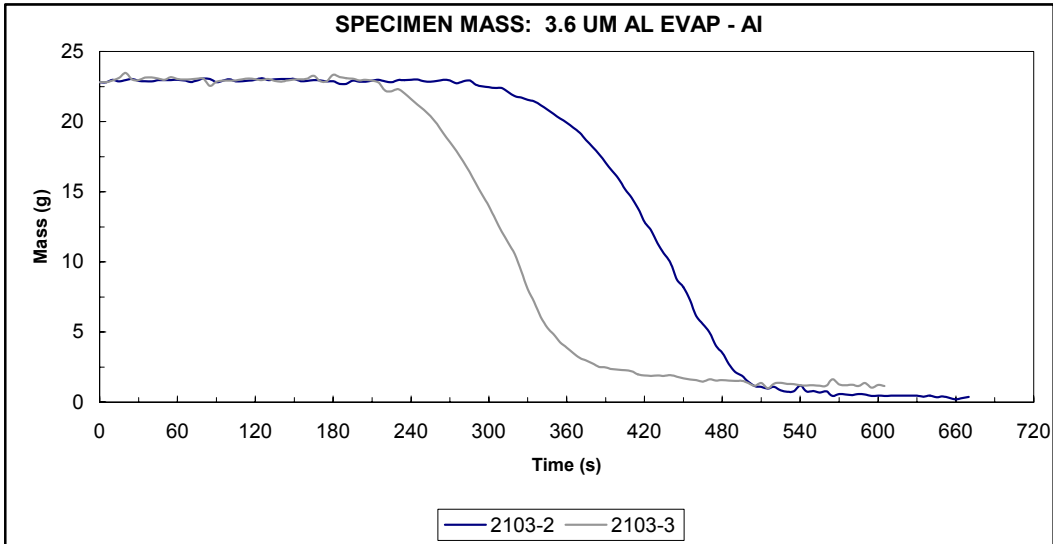
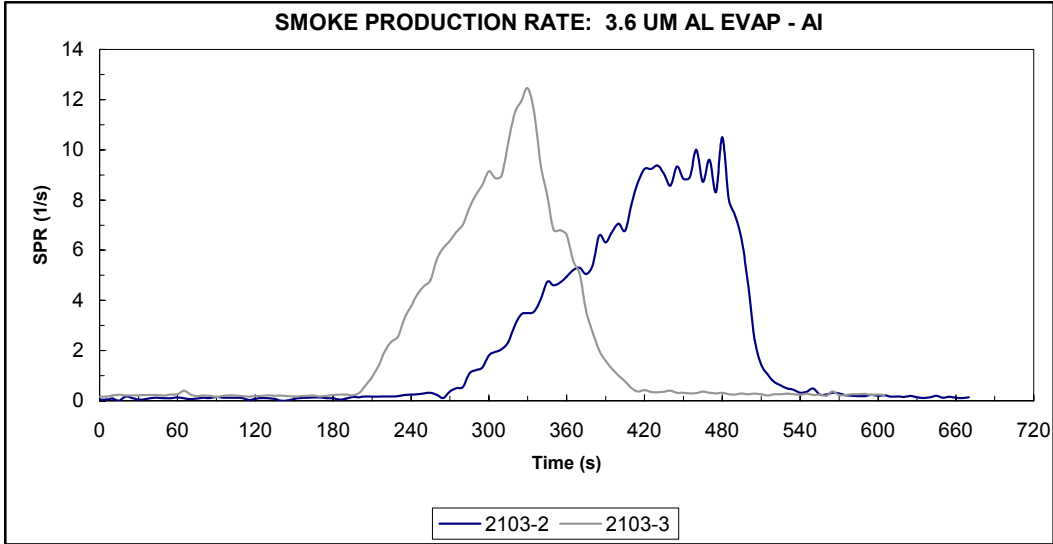


ASTM E 1354 CONE CALORIMETER TEST REPORT

Client: NHTSA
SwRI Project No: 01.05804.01.005

Material ID: 3.6 um Al Evap - AI
Heat Flux: 50 kW/m²

(Page 2)



Notes & Observations:

ASTM E 1354 CONE CALORIMETER TEST REPORT

Client: NHTSA
SwRI Project No: 01.05804.01.005

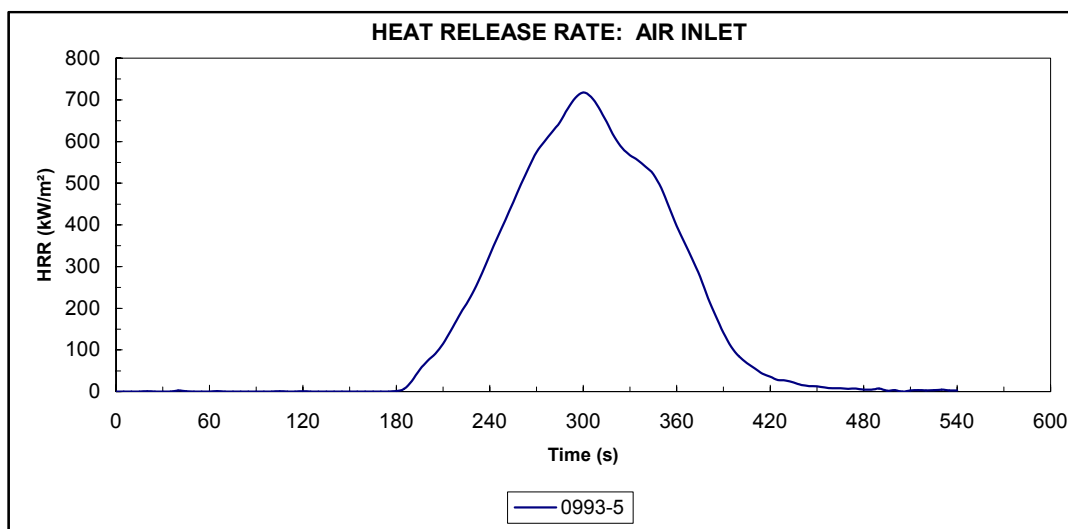
Material ID: Al Coating - Al
Heat Flux: 50 kW/m²

Orientation: Horizontal
Frame: Yes
Spark Igniter: Yes

Sample Area: 0.00867 m²
Distance: 25 mm
Operator: J. Anderson

Test ID	Test Date	t _{ig} (s)	t _b (s)	HRR _{peak} (kW/m ²)	t _{peak} (s)	THR (MJ/m ²)	HRR _{60s} (kW/m ²)	HRR _{180s} (kW/m ²)	HRR _{300s} (kW/m ²)	HRR _{30s, max} (kW/m ²)
0993-5	04/09/03	189	286	718	300	86.7	193	439	289	690
<i>Average</i>		189	286	718	300	86.7	193	439	289	690

Initial Mass (g)	Final Mass (g)	Mass Loss (g)	Mass Loss (%)	10-90 MLR (g/m ² -s)	EHC (MJ/kg)	SPR (1/s)	SR ₁ (m ² /m ²)	SR ₂ (m ² /m ²)	TSR (m ² /m ²)	SEA (m ² /kg)
22.6	9.5	20.8	92.2	15.4	36.1	2.72	13	1292	1304	537
22.6	9.5	20.8	92.2	15.4	36.1	2.72	13	1292	1304	537

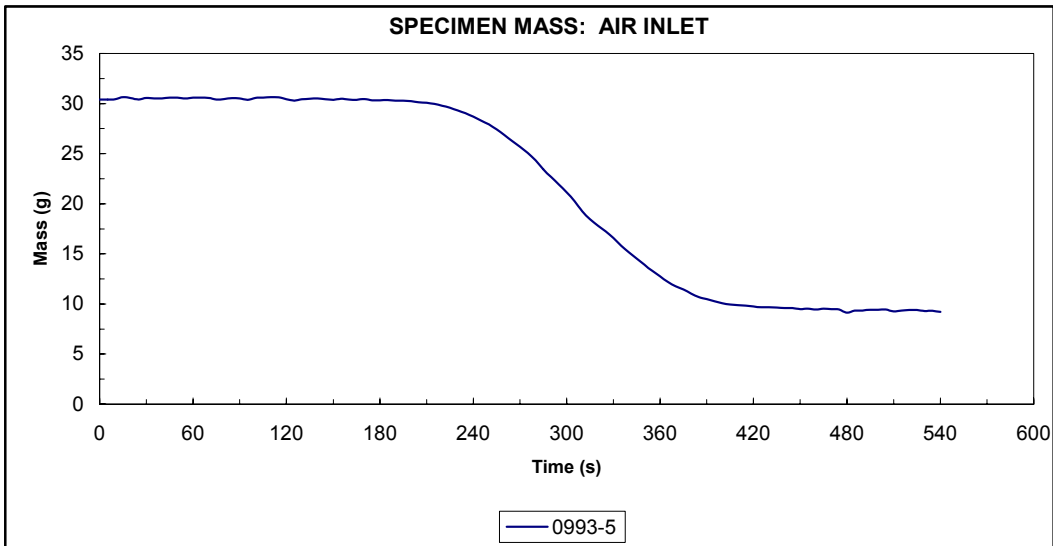
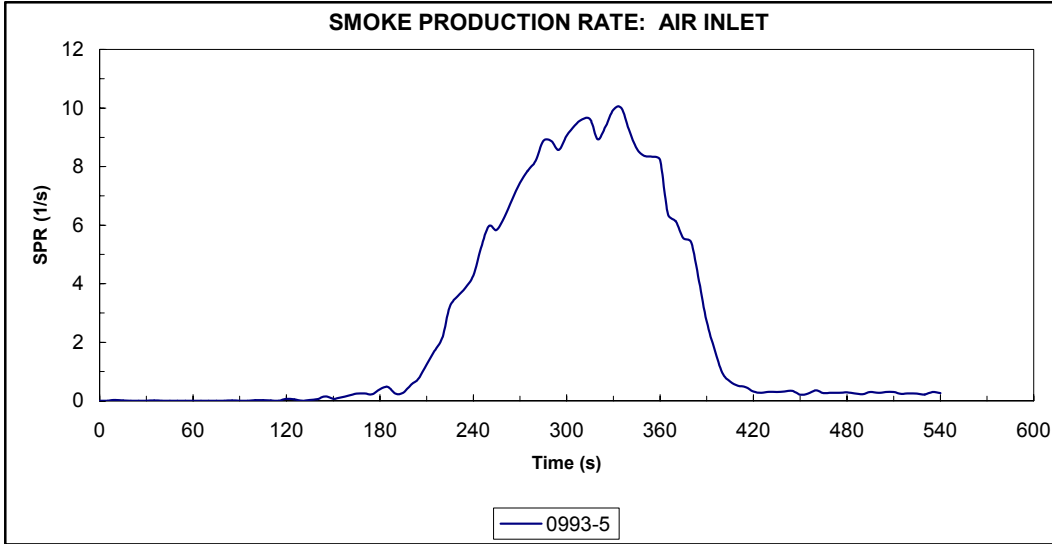


ASTM E 1354 CONE CALORIMETER TEST REPORT

Client: NHTSA
SwRI Project No: 01.05804.01.005

Material ID: Al Coating - Al
Heat Flux: 50 kW/m²

(Page 2)



Notes & Observations:

One corner of the sample was not coated, because it looked like a binder clip had been used to support the sample during coating. The sample ignited at this point.