

Alpha I250

CERTIFIED VALUES

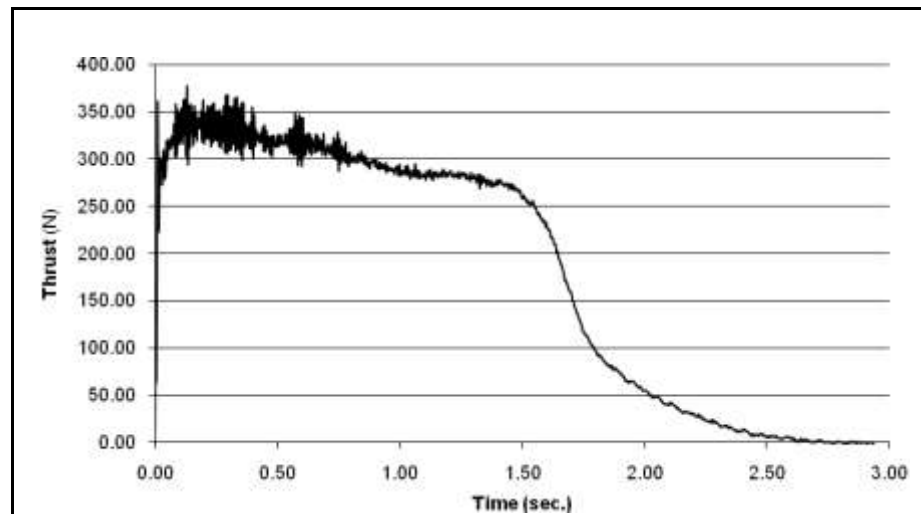
Total Impulse: 540.0
Delays: plugged
Propellant Type: Candlepower/nitrous oxide
Propellant Mass: 353.8g (Includes fuel grain and nitrous oxide)
Casing Dimensions: 54mm x 711mm
Certification Date: May 29,2009
Certification Type: High Power Rocket Motor

STATIC TEST DATA

Date Tested: May 23,2009
Total Impulse: 540 Newton-seconds (σ 30.41)
Peak Thrust: 375 Newtons (σ 5.41)
Burn Time: 2.32 seconds (σ .04)
Average Thrust: 231.0 Newtons (σ 11.68)
Mass After Firing: 1569 grams

Delay Time (sec)	plugged		
Average Measured Delay (sec)	plugged		
Initial Mass (gm)	1854		

Typical Thrust-Time Curve



REMARKS

Uses 300 grams of nitrous oxide. Operating temperature 75° F \pm 5° F.



Data File		Total	Max	Avg	Burn	Delay	Init	Fired
#	Engine	Impulse	Thrust	Thrust	Time	Time	Weight	Weight
Alpha001	I250	518.6	368.3	220.1	2.34	Plugged	1850.2	1572.8
Alpha002	I250	526.5	378.1	229.7	2.28	Plugged	1852.2	1570.5
Alpha003	I250	574.8	378.1	243.3	2.35	plugged	1858.8	1563.3
Average		540.0	375.0	231.0	2.32		1853.7	1568.9
Std Dev		30.41	5.41	11.68	.04			
Std Dev %		5.63%	1.44%	5.06%	1.65%			

; @File: alpha.txt, @Pts-I: 1318, @Pts-O: 31, @Sm: 0, @CO: 5%
; @TI: 536.818, @Tla: 533.508, @Tle: -1.38%, @ThMax: 399.717, @ThAvg: 234.009, @Tb: 2.294
; Exported using ThrustCurveTool, www.ThrustGear.com

I235 0 0 100 0.0 0.0 EX

0.0040 101.7485
0.0060 14.57491
0.01 354.63
0.014 161.9002
0.02 284.428
0.082 237.312
0.092 334.714
0.096 236.45
0.116 346.3
0.128 235.771
0.132 348.926
0.134 232.375
0.146 335.937
0.164 246.633
0.29 335.392
0.294 245.956
0.298 340.779
0.302 241.973
0.352 330.097
0.356 239.575
0.398 328.014
0.402 234.278
0.406 322.311
0.5799 324.12
0.5839 229.027
0.5879 325.48
0.5999 229.252
0.6039 322.445
1.4618 242.154
2.3018 16.97336
2.6337 0.0

