

# AEROTECH E 15

## CERTIFIED VALUES

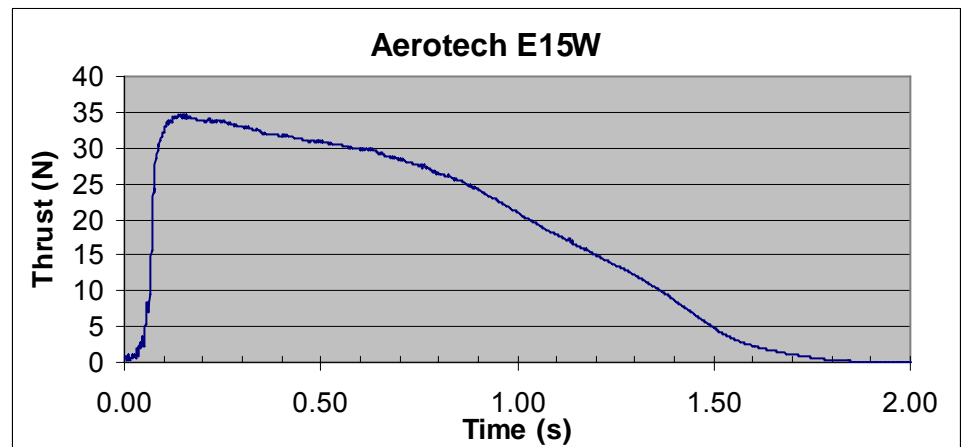
**Total Impulse:** 35.0 Newton-seconds  
**Delays:** 4, 7, 10  
**Propellant Type:** White Lightning  
**Propellant Mass:** 16.2 grams  
**Casing Dimensions:** 24mm × 65mm  
**Certification Date:** November 27, 2009  
**Certification Type:** Model Rocket Motor

## STATIC TEST DATA

**Date Tested:** November 24, 2009  
**Total Impulse:** 35.0 Newton-seconds ( $\sigma$  0.3)  
**Peak Thrust:** 34.9 Newtons ( $\sigma$  0.9)  
**Burn Time:** 1.60 seconds ( $\sigma$  0.03)  
**Average Thrust:** 21.8 Newtons ( $\sigma$  0.4)  
**Mass After Firing:** 27.1 grams

Delay Time(sec.)	4	7	10
Average Measured Delay(sec.)	4.69	6.75	10.26
Initial Mass (gm.)	48.5	49.0	49.8

## TYPICAL THRUST-TIME CURVE



## REMARKS

New molded case



Data File #	Engine	Total Impulse	Max Thrust	Avg. Thrust	Burn Time	Delay Time	Initial Weight	Fired Weight
091024W01	E15-4W	34.8	35.6	22.3	1.535	4.57	48.1	26.9
091024W04	E15-4W	35.4	36.2	22.1	1.579	4.70	48.7	27.1
091024W05	E15-4W	34.9	34.5	21.2	1.630	5.02	48.5	26.9
091024W06	E15-4W	35.2	35.2	22.1	1.579	4.45	48.5	26.8
091024W08	E15-7W	34.7	34.1	21.3	1.613	6.70	49.0	27.9
091024W10	E15-7W	35.2	33.9	21.9	1.597	7.77	49.1	27.4
091024W11	E15-7W	35.3	35.5	21.7	1.616	5.77	48.9	27.9
091024W12	E15-10W	34.7	35.9	21.5	1.603	10.74	49.9	26.7
091024W15	E15-10W	35.2	33.7	22.1	1.589	9.64	49.7	26.9
091024W16	E15-10W	34.7	34.3	21.3	1.621	10.40	49.7	26.9
Average		35.01	34.9	21.8	1.596		49.0	27.1
Std Dev		0.282	0.895	0.391	0.028			
Std Dev %		0.8%	2.6%	1.8%	1.7%			
Range	Indicated	Actual	Actual	Actual	Actual	Average		
4	2.5 to 5.5	4.57	4.70	5.02	4.45	4.69		
7	5.5 to 8.5	6.70	7.77	5.77		6.75		
10	8.0 to 12.0	10.74	9.64	10.4		10.26		

; @File: E20.txt, @Pts-I: 1001, @Pts-O: 32, @Sm: 3, @CO: 5%  
; @TI: 34.6666, @Tla: 34.5451, @Tle: 0.0%, @ThMax: 34.6991, @ThAvg: 22.1301, @Tb: 1.561  
; Exported using ThrustCurveTool, www.ThrustGear.com  
E15 24 65 4, 7, 10 0.0162 0.049 Aerotech?RCS

```

0.0 0.0290422
0.024 0.227567
0.038 1.394029
0.048 2.6721
0.056 5.81661
0.06 7.76916
0.062 9.00446
0.064 10.71764
0.072 20.3365
0.074 22.4147
0.08 27.1311
0.084 28.9874
0.09 30.5394
0.104 32.9513
0.124 34.2647
0.138 34.677
0.252 33.8465
0.36 32.0816
0.63 29.8124
0.672 28.8301
0.77 27.3596
0.8 26.3903
0.9 24.2069
1.084 18.06808
1.134 16.89181
1.16 15.87009
1.2899 12.19213
1.3719 9.38065
1.5079 4.03928
1.5519 2.72185
1.6019 1.720821
1.7579 0.0

```