

JMP Output for Photolithography Experiment

Response Thickness - Full Factorial Model (no center points)

Summary of Fit

RSquare	1
RSquare Adj	.
Root Mean Square Error	.
Mean of Response	8.4125
Observations (or Sum Wgts)	8

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	7	14.488750	2.06982	.
Error	0	0.000000	.	Prob > F
C. Total	7	14.488750	.	.

Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob> t
Intercept	8.4125	.	.	.
XT	0.0375	.	.	.
XD	1.3125	.	.	.
XT*XD	-0.1625	.	.	.
XF	0.2375	.	.	.
XT*XF	0.0125	.	.	.
XD*XF	-0.0625	.	.	.
XT*XD*XF	0.0125	.	.	.

Response Thickness - Full Factorial Model with center points

Summary of Fit

RSquare	0.985462
RSquare Adj	0.96002
Root Mean Square Error	0.231166
Mean of Response	8.375
Observations (or Sum Wgts)	12

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	7	14.488750	2.06982	38.7335
Error	4	0.213750	0.05344	Prob > F
C. Total	11	14.702500		0.0016

Lack Of Fit

Source	DF	Sum of Squares	Mean Square	F Ratio
Lack Of Fit	1	0.03375000	0.033750	0.5625
Pure Error	3	0.18000000	0.060000	Prob > F
Total Error	4	0.21375000		0.5077
				Max RSq 0.9878

Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob> t
Intercept	8.375	0.066732	125.50	<.0001
XT	0.0375	0.081729	0.46	0.6702
XD	1.3125	0.081729	16.06	<.0001
XT*XD	-0.1625	0.081729	-1.99	0.1177
XF	0.2375	0.081729	2.91	0.0439
XT*XF	0.0125	0.081729	0.15	0.8858
XD*XF	-0.0625	0.081729	-0.76	0.4871
XT*XD*XF	0.0125	0.081729	0.15	0.8858