Fit: Adhesion force

Aircraft primer paint (Montgomer 2001, page 572)

Last updated 7 February 2017 at 12:19 by Analyse-it Software, Ltd.

Fit

N	18
R^2	0.908
R^2 adjusted	0.870
RMSE	0.287

Effect of Model

Source	SS	DF	MS	F	p-value
Difference	9.73	5	1.95	23.67	<0.0001
Error	0.99	12	0.08		
Null model	10.72	17	0.63		

H0: $E(Y|X=x) = \mu$

The model is no better than a null model $Y=\mu$.

H1: $E(Y|X=x) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + ...$

The model is better than the null model.

Effect of Terms

Term	SS	DF	MS	F	p-value
Primer type	4.58	2	2.29	27.86	<0.0001 [1]
Application method	4.91	1	4.91	59.70	<0.0001 [1]
Primer x Application	0.24	2	0.12	1.47	0.2693 [2]

H0: $\beta_{Term} = 0$

The term does not contribute to the model.

H1: $\beta_{Term} \neq 0$

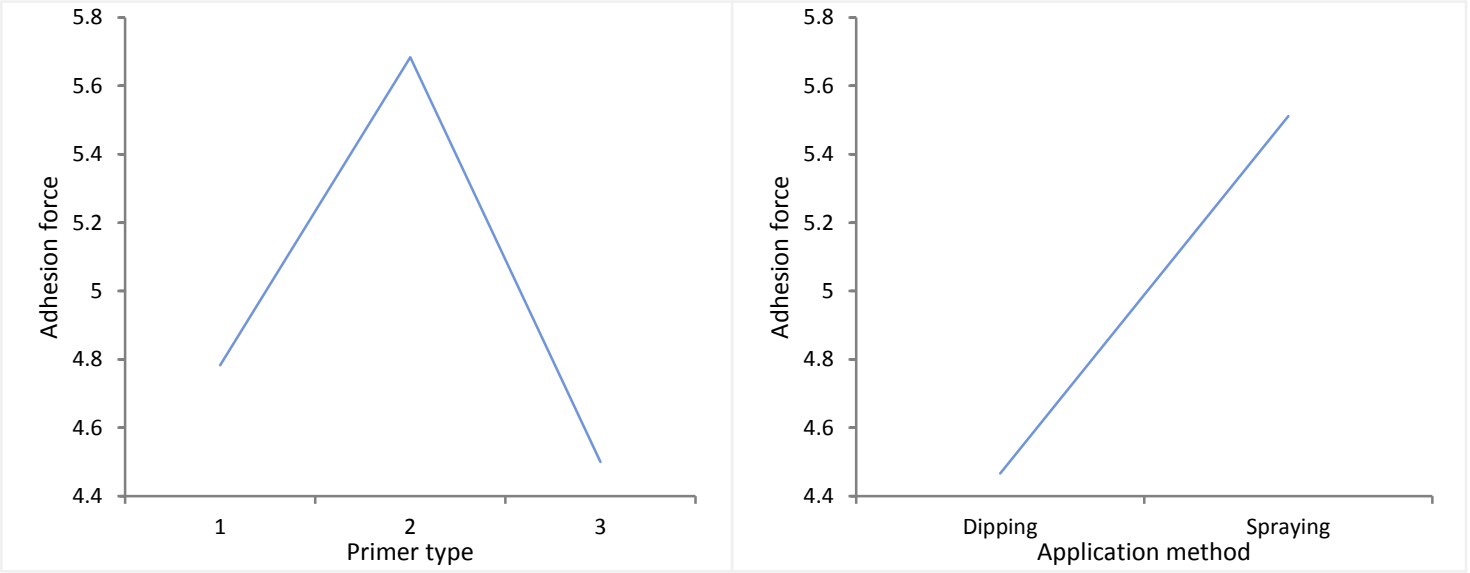
The term contributes to the model.

[1] Reject the null hypothesis in favour of the alternative hypothesis at the 5% significance level.

[2] Do not reject the null hypothesis at the 5% significance level.

Effect Means

Main Effects



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Analyse-it v4.80.1

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Mean of Y	4.99

Primer type Effect

Level	LS mean	SE
1	4.78	0.117
2	5.68	0.117
3	4.50	0.117

Tukey-Kramer all pairs Contrast	Mean difference	Simultaneous 95% CI	SE	0	p-value
2 - 3	1.18	0.74 to 1.63	0.166		<0.0001 [1]
2 - 1	0.90	0.46 to 1.34	0.166		0.0004 [1]
1 - 3	0.28	-0.16 to 0.73	0.166		0.2410 [2]

[1] Reject the null hypothesis in favour of the alternative hypothesis at the 5% significance level.

[2] Do not reject the null hypothesis at the 5% significance level.

Application method Effect

Level	LS mean	SE
Dipping	4.47	0.096
Spraying	5.51	0.096

Tukey-Kramer all pairs Contrast	Mean difference	Simultaneous 95% CI	SE	0	p-value
Spraying - Dipping	1.04	0.75 to 1.34	0.135		<0.0001 [1]

H0: μ = 0

The difference between the means of the populations is equal to 0.

H1: μ ≠ 0

The difference between the means of the populations is not equal to 0.

[1] Reject the null hypothesis in favour of the alternative hypothesis at the 5% significance level.