

Supplementary Information

Contrast role of third body layer and hard abrasives in the wear process of TiAlSiN hardness-modulated multilayer coating: a case study by the effect of normal load and velocity

Table S1. ANOVA results for measured responses.

Source	DoF	Seq. SS	Contribution	Adj. MS	F-value	P-value
(1) Hardness						
Model	6	23.968	88.10%	3.9946	11.10	0.001
Load	3	17.862	65.65%	5.9539	16.55	0.001
Velocity	3	6.106	22.44%	2.0353	5.66	0.019
Residuals	9	3.238	11.90%	0.3598		
Total	15	27.206	100%			
(2) Ra						
Model	6	3402.1	90.50%	567.01	14.30	0.000
Load	3	2359.0	62.76%	786.34	19.82	0.000
Velocity	3	1043.1	27.75%	347.69	8.77	0.005
Residuals	9	357.0	9.50%	39.66		
Total	15	3759.1	100%			
(3) COF						
Model	6	0.086240	94.25%	0.014373	24.58	0.000
Load	3	0.071031	77.63%	0.023677	40.49	0.000
Velocity	3	0.015210	16.62%	0.005070	8.67	0.005
Residuals	9	0.005263	5.75%	0.000585		
Total	15	0.091503	100%			
(4) Wear rate						
Model	6	8.6373	94.62%	1.43955	26.36	0.000
Load	3	0.7102	7.78%	0.23674	4.34	0.038
Velocity	3	7.9271	86.84%	2.64235	48.39	0.000
Residuals	9	0.4915	5.38%	0.05461		
Total	15	9.1288	100%			