

6. Abrasion loss

Davies, O.L. and Goldsmith, P.L. (eds.) (1972) *Statistical Methods in Research and Production*, 4th Edition, Edinburgh: Oliver and Boyd, 239.

The data come from an experiment to investigate how the resistance of rubber to abrasion is affected by the hardness of the rubber and its tensile strength. Each of 30 samples of rubber was tested for hardness (in degrees Shore; the larger the number, the harder the rubber) and for tensile strength (measured in kg per square centimetre), and was then subjected to steady abrasion for a fixed time. The weight loss due to abrasion was measured in grams per hour. The data could be analysed by regression with two explanatory variables.

Abrasion loss (g/h)	Hardness (degrees S)	Tensile strength (kg/cm ²)
372	45	162
206	55	233
175	61	232
154	66	231
136	71	231
112	71	237
55	81	224
45	86	219
221	53	203
166	60	189
164	64	210
113	68	210
82	79	196
32	81	180
228	56	200
196	68	173
128	75	188
97	83	161
64	88	119
249	59	161
219	71	151
186	80	165
155	82	151
114	89	128
341	51	161
340	59	146
283	65	148
267	74	144
215	81	134
148	86	127