

SAMPLE IDENTITY : Three sets of compression springs, part number 9-1204-36 indentified as "Ready", "Danly Die Set" and "Raymond".

DATE OF RECEIPT : 13/02/96

TEST PROCEDURE : Documented in-house test procedure

Fatigue Testing of Compression Springs, Part Number 9-1204-36

The springs were cycled between lengths corresponding to the "catalogue" maximum deflection conditions of 23.97mm and 18.80mm (ie 5.17mm stroke) at a test speed of 3000 cycles/minute.

The results were as shown below:-

"Ready" Springs (Colour Code Yellow)

Spring No	Cycles	Broken	Unbroken
1	466,450	x	
2	10,000,000		x
3	3,043,070	x	
4	1,995,730	x	
5	10,000,000		x
6	10,000,000		x
7	10,000,000		x
8	314,670	x	
9	10,000,000		x
10	10,000,000		x

The results have also been analysed by means of the "weibull" technique, and a value of "B10" (the life in cycles which 90% of springs would be expected to survive without failure) determined for each batch. The B10 values are:-

"Ready" springs (yellow) - 333,139

"Raymond" springs (green) - 152,159

"Danly Die Set" springs (yellow/green) - 117,706

"Danly Die Set" Springs (Colour Code Yellow/Green Stripes)

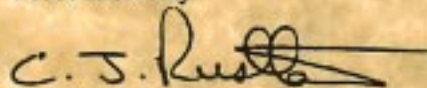
Spring No	Cycles	Broken	Unbroken
1	238,290	x	
2	286,540	x	
3	178,390	x	
4	138,640	x	
5	231,390	x	
6	199,170	x	
7	114,490	x	
8	144,870	x	
9	136,010	x	
10	211,740	x	

"Raymond" Springs (Colour Code Green)

Spring No	Cycles	Broken	Unbroken
1	185,000	x	
2	156,760	x	
3	166,160	x	
4	164,410	x	
5	154,530	x	
6	9,000,860	x	
7	157,470	x	
8	198,250	x	
9	152,030	x	
10	167,680	x	

If you require any further details or clarification then please do not hesitate to contact me.

Yours sincerely



C J Rushton
Quality Manager

Approved by: M.R. Southward (M.R. SOUTHWARD)

on behalf of

The Spring Research & Manufacturers' Association

Date: 8/3/96

Enc.



Cert No. 2984

The Spring Research and Manufacturer's Association

Henry Street, Sheffield S3 73Q England
Telephone: 0114 276 0771 • Fax: 0114 272 6344
E-mail srama @ srama.demon.co.uk.

DIRECTOR: D. Saynor, B.Sc., C.Eng., M.I. Mech.E., SECRETARY: A. Hooper, B.A., F.C.I.S.
A company limited by guarantee. Registered in England No. 701 484

