

## Request 1: Provide all corridors in a digital format

Test engineers will want to plot their test result against the required corridor. This requires that the corridor is built into their analysis system, ideally in a digital format. Reverse engineering software is available that can extract curves from graphs, but it will not necessarily reproduce the original curve exactly. Moreover, the publication process for the UN Reg. or GTR may change a clear high-resolution graph into a low resolution bitmap or, in an extreme case (EU Reg.), subtly change the shape of a curve.

TRL therefore suggests that all corridors within the test procedure should also be provided in a digital format, to improve reproducibility and to save the effort of reverse engineering. Where a corridor consists of straight lines, only the X & Y coordinates of the vertices need to be provided. Where there are curved lines a tabulation of X & Y coordinates at regular intervals should be provided. This could be provided in a text file and / or an Excel file. This is a partial example, for the old EEVC legform:

EEVC WG17 2002 Static Bending Certification Corridor at 0.1 degree intervals

Knee Defl- ection (degrees)	Force	
	Lower Limit (N)	Upper Limit (N)
0.00		143.00
0.10		149.11
0.20		152.79
0.30		155.71
0.40	0.00	158.40
0.50	17.74	160.72
0.60	30.81	162.67
0.70	41.80	164.62

These files could be included in the MR1 annex with the FlexPLI drawings and the manual.

## Request 2: Provide more details on the rubber and neoprene compression tests

The details provided in the test procedure (Para 6.3.1.1.4 & Fig. 15) are not sufficient to carry out the tests with good reproducibility.

Were the compression tests carried out using any recognised test procedure (e.g. ISO or ASTM)?

What is the diameter of the cylinder (presuming that it is cylindrical) used to load the rubber and the neoprene in the two compression tests? This isn't specified in the test procedure, although various WG documents quoting pressure and load suggest that in at least one case it is 50 mm diameter.

Should the surface finish of this cylinder and the plate that the rubber or neoprene sheet rests on be specified?

Do the surfaces of the test sample, cylinder and underlying plate need to be prepared in any way – especially cleaned or especially lubricated?

Does the rate of loading or the rate of compression need to be specified?

Could the corridors please be provided in a digital format (in addition to the current graphs)?

No loading press is totally rigid. Given the accuracy with which the sample's compression needs to be measured, even a small deflection within the press itself could significantly affect the result. This would depend on whether deflection was measured using sensors within the press or through an independent measurement system attached either side of the sample. Should there be a requirement that, if necessary, the deflection measured should be corrected for this error?

The published corridors were presumably constructed around real test data. Were these test results corrected for deflection (lost motion) within the press?