

LUKE OAVIED, 05/02/2021, TIME: 2PM

1707263

ADVANCED STRESS + FEA M6XCO420

Q4

a) The washer test subjects the specimen to both tension and compression, demonstrated graphically as a sinusoidal curve.

The specimen is loaded with a weight whilst being held in a frame, powered by a belt drive. When the top of the specimen is being upwards it's subjected to tension, whilst compression when the same area of the bar is rotated and facing downwards. The combined cycle of compression and tension will generate an S-N curve until the specimen is subjected to fatigue failure. The specimen is at zero stress when it's not in tension or compression.

