

Title

Tablet Capping

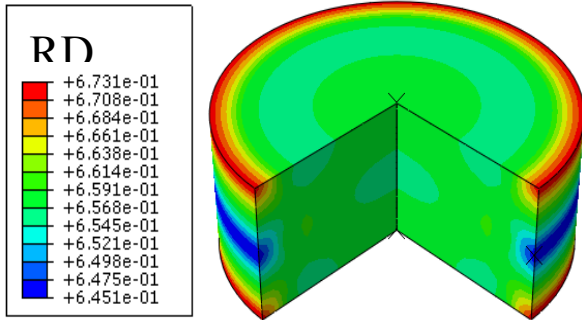
Problem Statement

Can we model aspects of tablet capping and tooling change

Approach 1

We used a simulation of a flat face (FF) punch using Finite Element Modelling.

Result



Tablet density distribution from the numerical model can be estimated which can underline tablet failure such as capping.

Impact

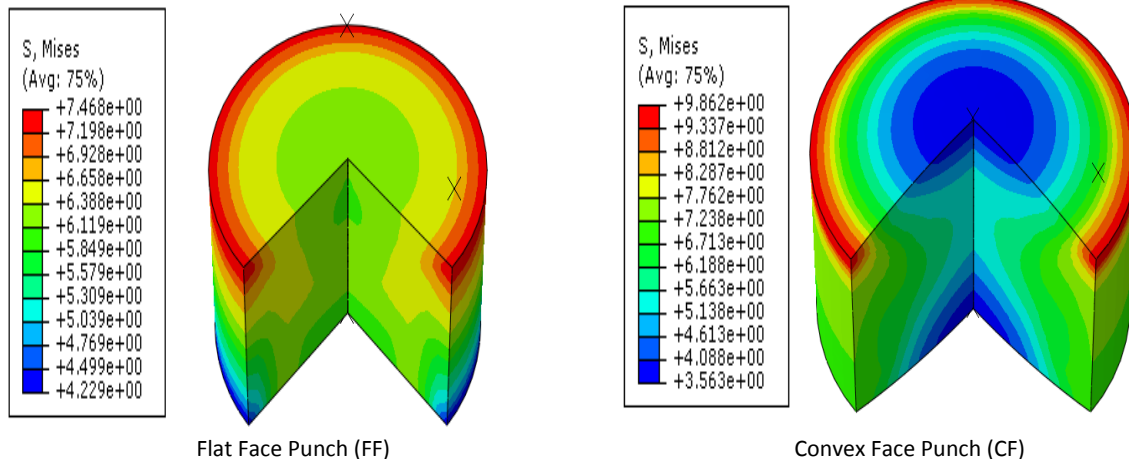
Method established to troubleshoot tablet capping during development trials.

Approach 2

We used a simulation of both Flat Face (FF) and Convex Face (CF) punch shapes using Finite Element Modelling.

Result

Stress distributions can be estimated in both FF and CF punches. Validated compaction computational model attained



Impact

Reduction of trial work using various types of tooling on a tablet press, subsequently saving time, material and resources while enabling optimisation of process

Title

Excipient Studies

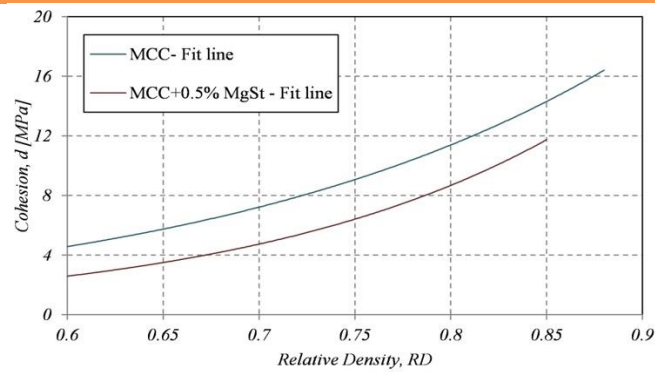
Problem Statement

What is the Impact of excipient addition in Tableting.

Approach

We used elastic and plastic mechanical characterisation of excipients using a radial pressure sensor.

Result



Differences in Cohesion, Evolution Parameter, Hydrostatic Yield Stress and Poisson's Ratio between MCC and 0.5wt% MgSt-MCC observed. Cohesion differences presented below.

Impact

Detailed elastic and plastic profiling of excipients (i.e. supplier, batch variation) capability available.