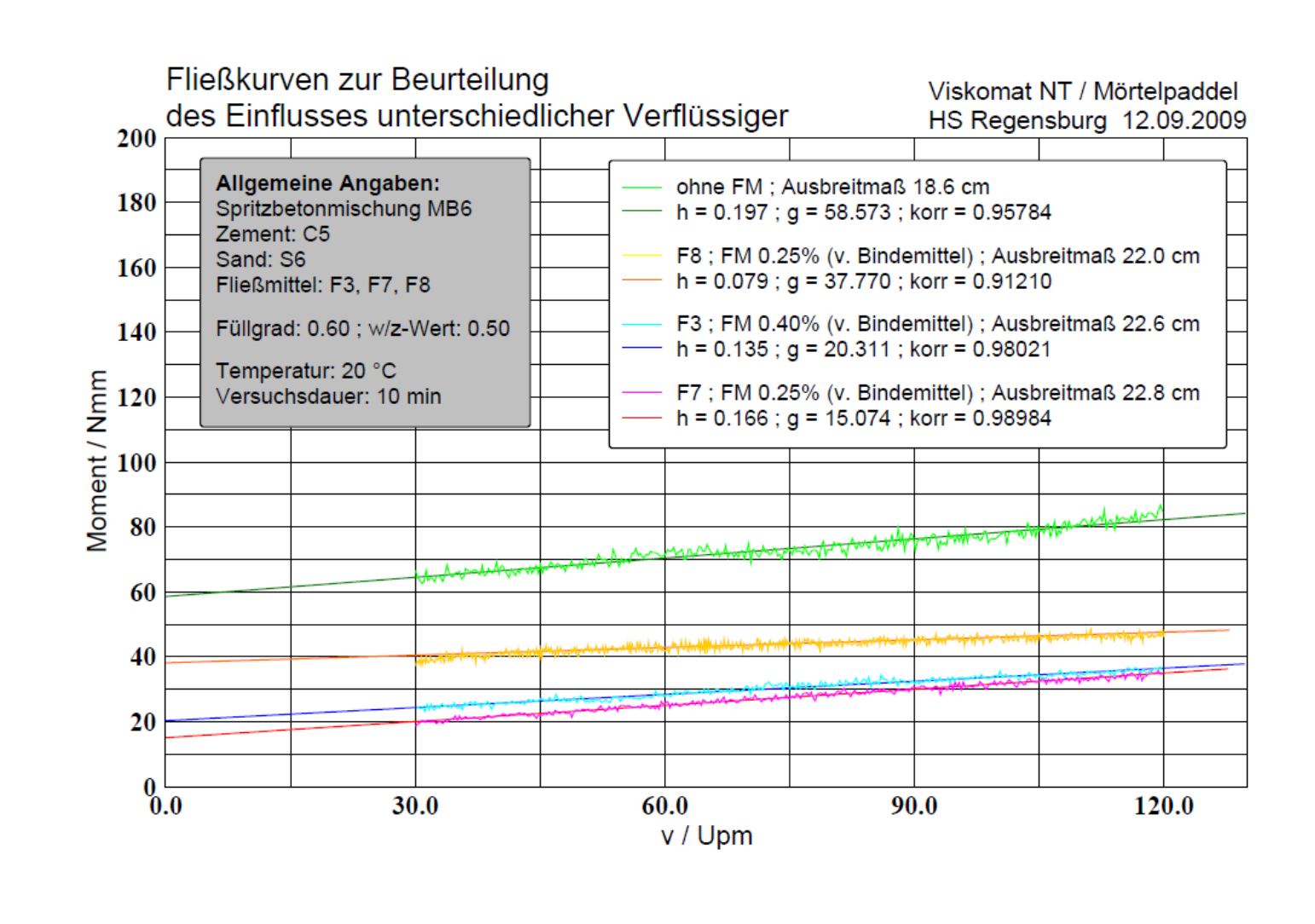
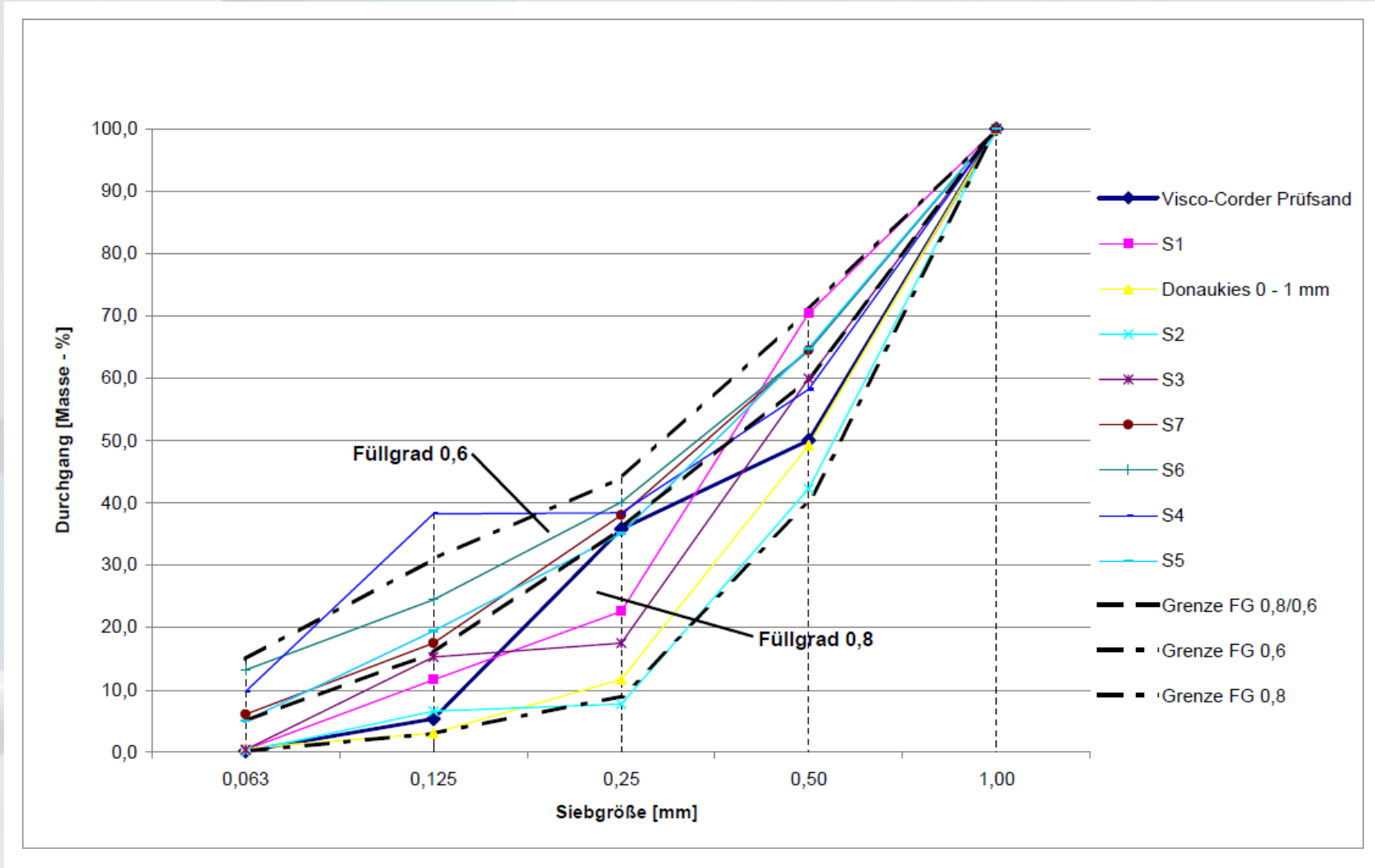


DIPLOMA THESIS
ESTIMATING THE CONSISTENCY AND SETTING TIME
OF FRESH CONCRETE
FOR INNER TUNNEL LININGS AND WET-MIX SHOTCRETE

INTENTION
DEVELOPING A TEST METHOD WITH THE VISKOMAT NT FOR THE
PRESELECTION OF CONSTITUTIVE MATERIALS

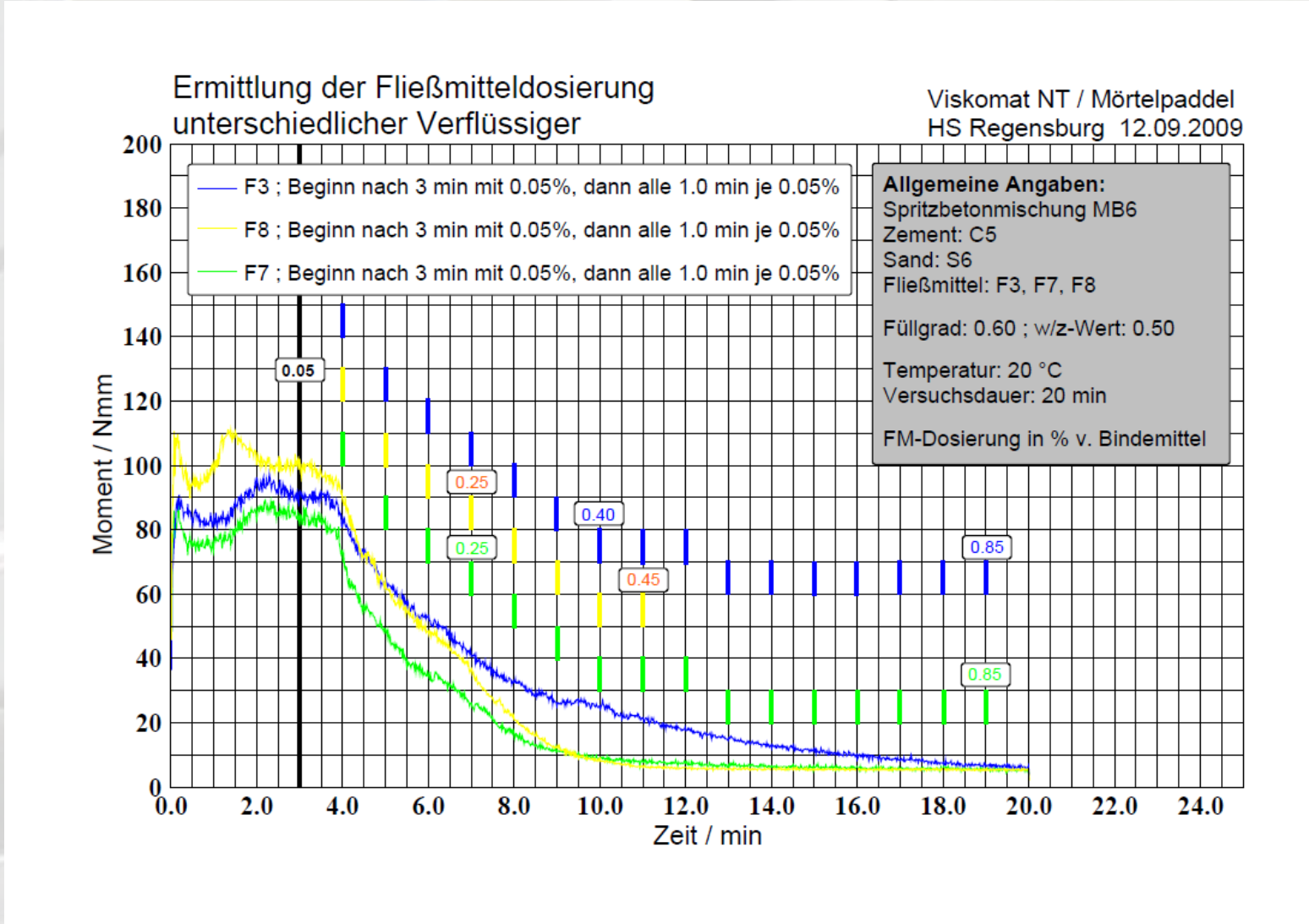
Start with a sieve analysis of the aggregates.

Considering the shape of the aggregates and the grading curve, the filling ratio for the mix can be estimated.



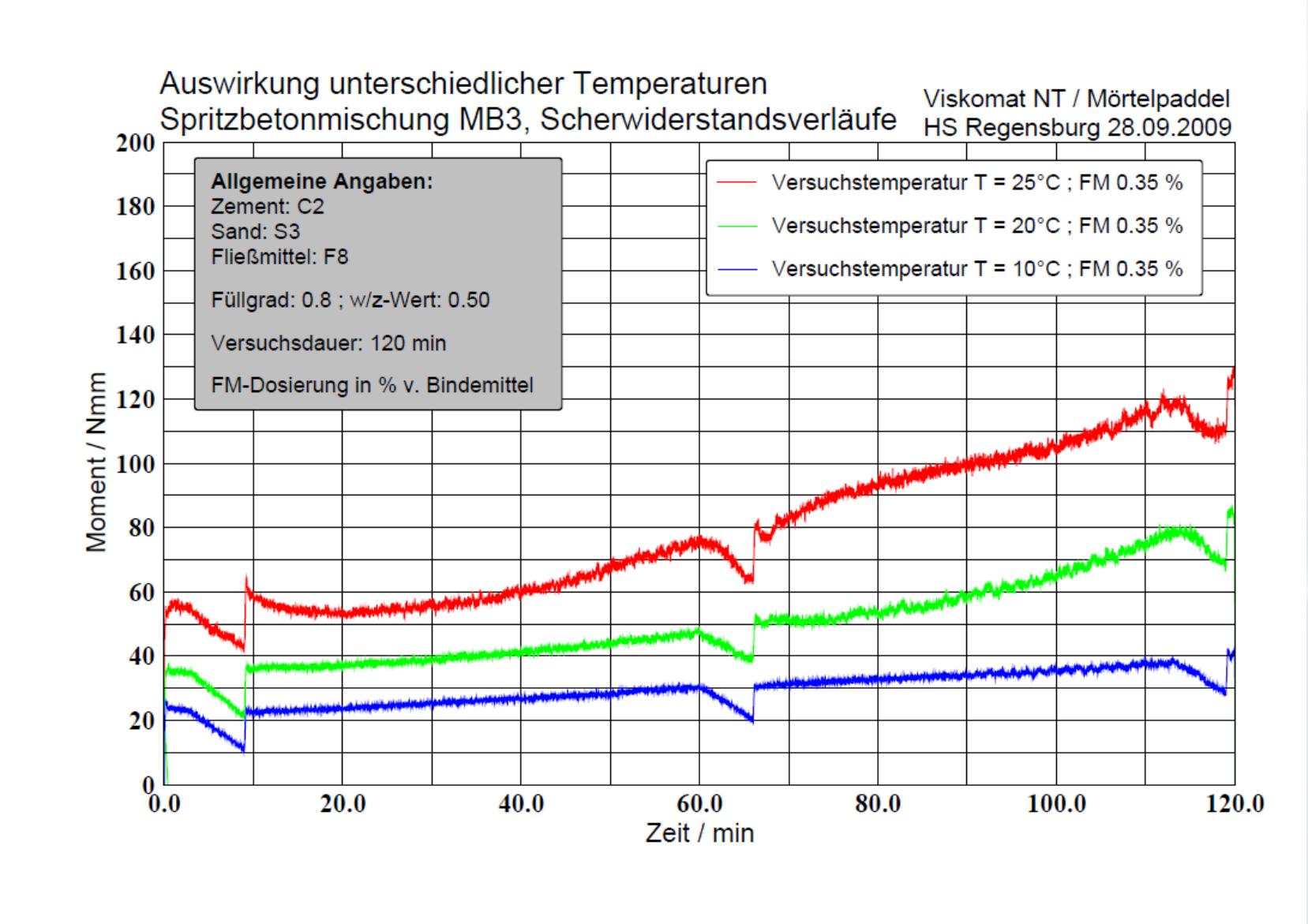
To analyze the rheological properties of the fine mortar with and without plasticizer use a 10 minutes ramp profile.

The result is the flow curve.



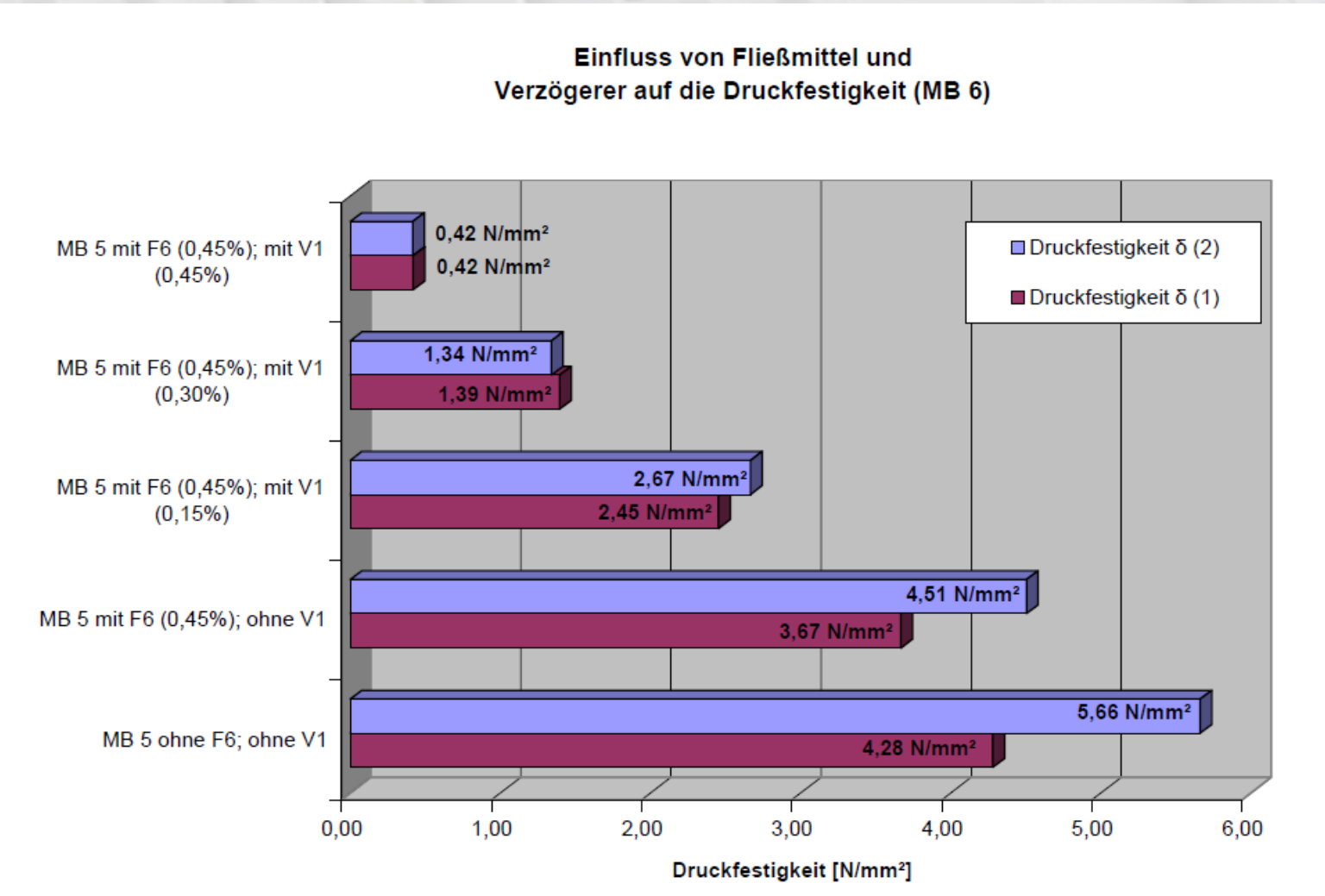
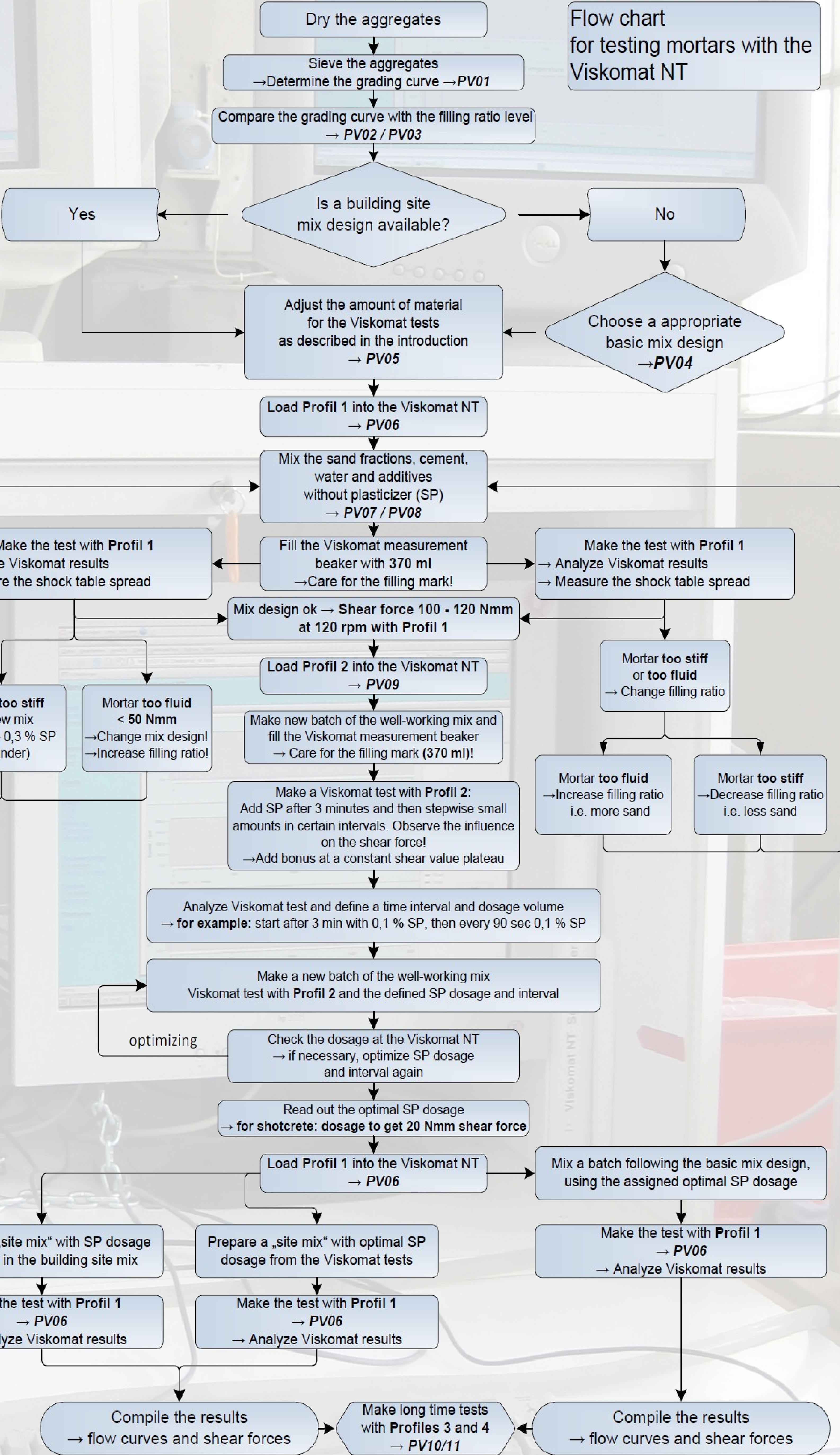
Determine the optimal amount of plasticizer.

Over a period of 20 minutes small amounts of plasticizer will be added in certain time steps during the Viskomat measurement.



To check the stiffening effects run additional tests lasting 120 or 240 minutes.

Investigate the influence of curing temperature, cement fineness and the working mechanism of the combination of certain stabilizers and plasticizers with the used cement.



Test the early strength of mortar in the age of 12 hours to determine the influence of retarding agents and combinations of water reducing and retarding agents.