



The sliding deformeter is a probe extensometer with mechanical measuring stops which are attached at distances of 1 m in the measuring tube. According to Fig. 1 the distance M_0 between the measuring head above and the measuring mark above is measured. The value M_0 is measured with an electric deformation transducer inside the probe and transferred per cable to a readout unit. A later analogic measurement gives the changed measuring value M_1 if a deformation has come off. The change of the distance ΔL can be calculated from the difference of the measuring values $M_1 - M_0$. The particular values inform about the deformation distribution meter by meter and the summation about the total deformation along the measuring axis.

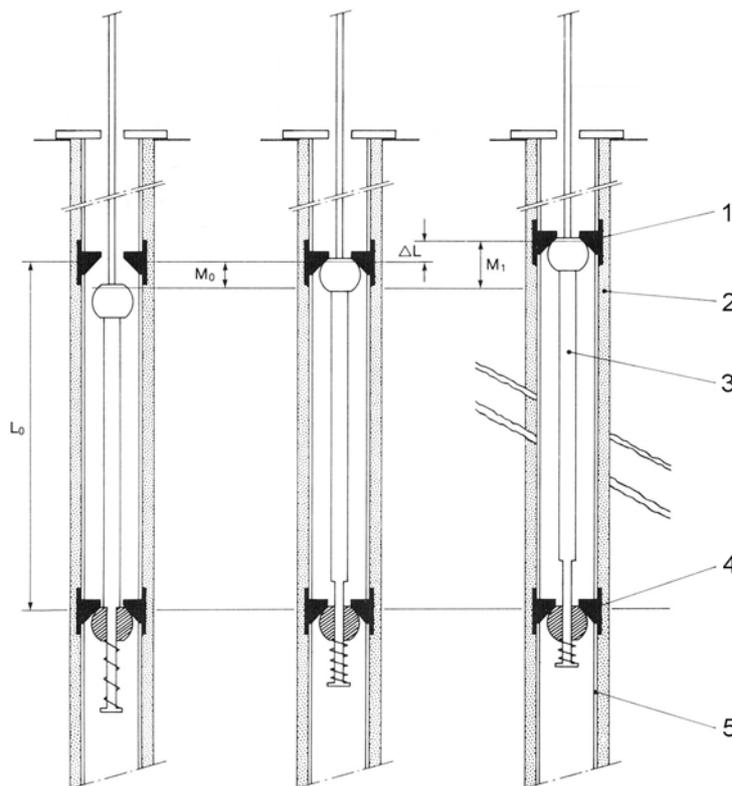


Fig. 1 Principal of the measuring process with the sliding deformeter
 1 Measuring mark (cone-sphere principal), 2 Argil, cement, 3 Probe,
 4 Measuring mark, 5 Plastic tube



The measuring range of the probe is around 22.5 mm in case of a base length of 1000 mm. The resolution of the displacement measuring system is 0.01 mm, the measuring accuracy of the total system is better than ± 0.03 mm per meter.

In boreholes assigned for the probe extensometer different sorts of measuring tubes can be installed and connected with the rock by cementing:

- 2.4.2.1 Sliding deformeter measuring tube, base length 1.0 m, made of HPVC, outer diameter 60 mm, inner diameter 50 mm, with telescopic coupling made of ABS (acrylen-butadien-styrole), outer diameter 67 mm, and installation material (socket hexagon head cup screws type M4 x 8 with point and adhesive tape), weight of mounted tube 1.02 kg/pc.

- 2.4.2.2 Measuring tube for combined measurement with sliding deformeter and inclinometer, base length 1.0 m, made of HPVC, outer diameter 63 mm, inner diameter 51 mm, with 4 grooves in the inner casing to take up inclinometer probe and telescopic coupling made of ABS (acrylen-butadien-styrole), outer diameter 67 mm, and installation material (socket hexagon head cup screws type M4 x 8 with cylindrical seat and adhesive tape), weight of mounted tube 1.34 kg/pc.



At the bottom of the borehole the measuring tubes have to be completed with an HPVC measuring tube $l = 0.5$ m:

2.4.2.3 suitable for HPVC measuring tube, diameter 60/50 mm,
with telescopic coupling

(2.4.2.1)

2.4.2.4 suitable for HPVC measuring tube, diameter 63/51 mm,
with 4 grooves in longitudinal direction

for combined measurements with borehole inclinometer

(2.4.2.2)

At the borehole opening the measuring tubes are closed with an HPVC cover (diameter 150 mm). The cover acts at the same time as fixture to screw on the cable trolley:

2.4.2.5 suitable for HPVC measuring tube, diameter 60/50 mm

(2.4.2.1)

2.4.2.6 suitable for HPVC measuring tube, diameter 63/51 mm,
with 4 grooves in longitudinal direction

for combined measurements with borehole inclinometer

(2.4.2.2)