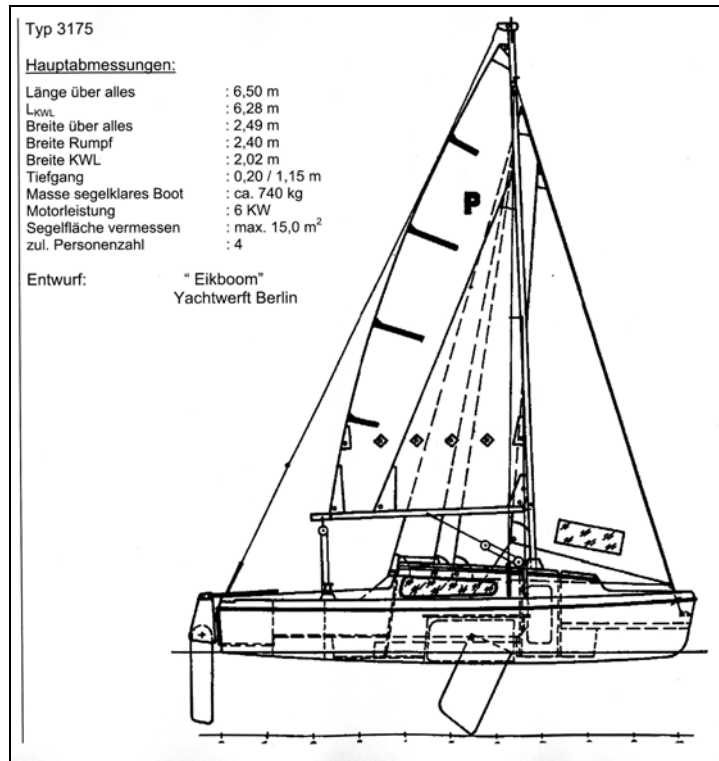
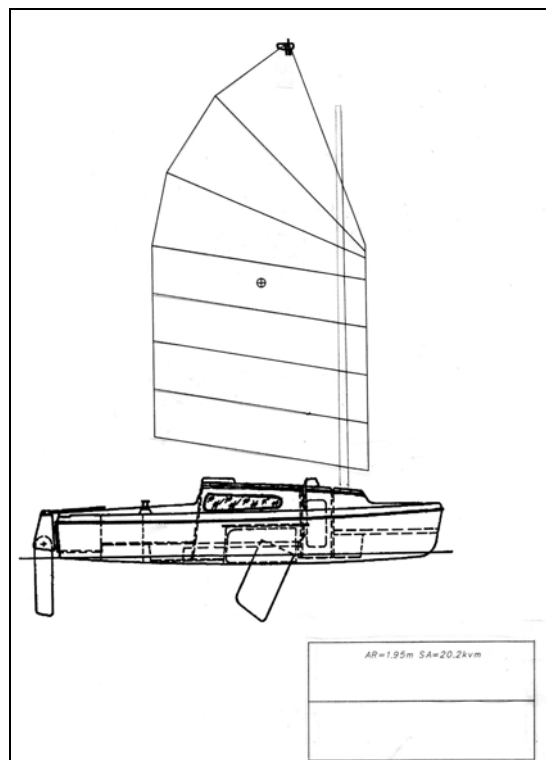


Frøken Sørensen, a Greif 650, 15sqm Jollenkreuzer

Sailplan for the original rig and new the 20.2sqm JR



The sailplan above shows the Greif 650 in numbers.



The JR sailplan shows a rig of 20.2sqm. As for running lines, she is rigged as shown in “Junk Rig For Beginners”, using *Johanna style sheeting* and a *3-part halyard*, a *luff (throat) hauling parrel* and a *yard hauling parrel*.

Some numbers:

Mast:

The mast is 7.6m long. The lower 6m consists of a 100 x 4mm aluminium tube (6082-T6 alloy, yield strength 250MPa = 250Newton/sqmm)

Its max bending moment = 709kpm (..that is, before it takes a permanent bend...)

The boat's righting moment = 316 - 450kpm, depending on crew weight and position.

The top section consists of spruce, 1.6 + 0.4m long, tapered to 60mm in the top. This section has been stuck 40cm into the tube with West Epoxy as the glue.

No screws have been used anywhere in the mast.

Yard

The yard is a beam built from one 50 x 1.5mm aluminium tube with another one at 22 x 2mm glued on top of it with West Epoxy (.. the glue joint has been painted for sun protection...). At each end the tubes have also been secured with a little bolt.

Battens

All battens except batten 2 have been made from 22 x 2mm aluminium tubes.

Batten 2 is made from a 35 x 2mm tube as this is longer and takes much higher loads.

Boom

The boom is 22 x 2mm, just as most of the battens.

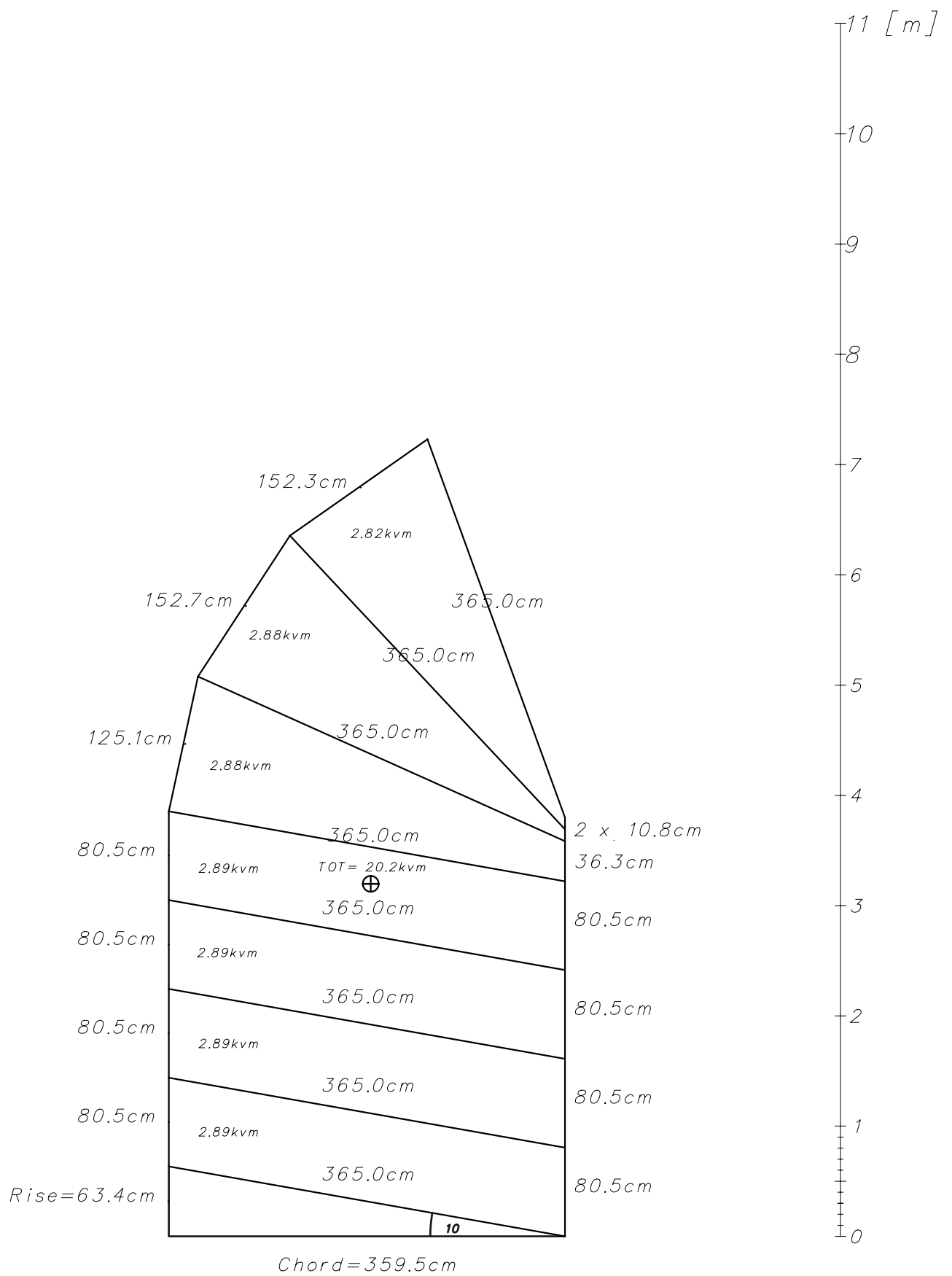
All the tubes for the yard, battens and boom are made of 6060-T6 alloy (yield strength =150MPa)

Recent test sails seems to confirm that I have hit about right dimensions for the yard and the battens.

CAD sailplan:

On the next pages you will find the sail plan in detail.

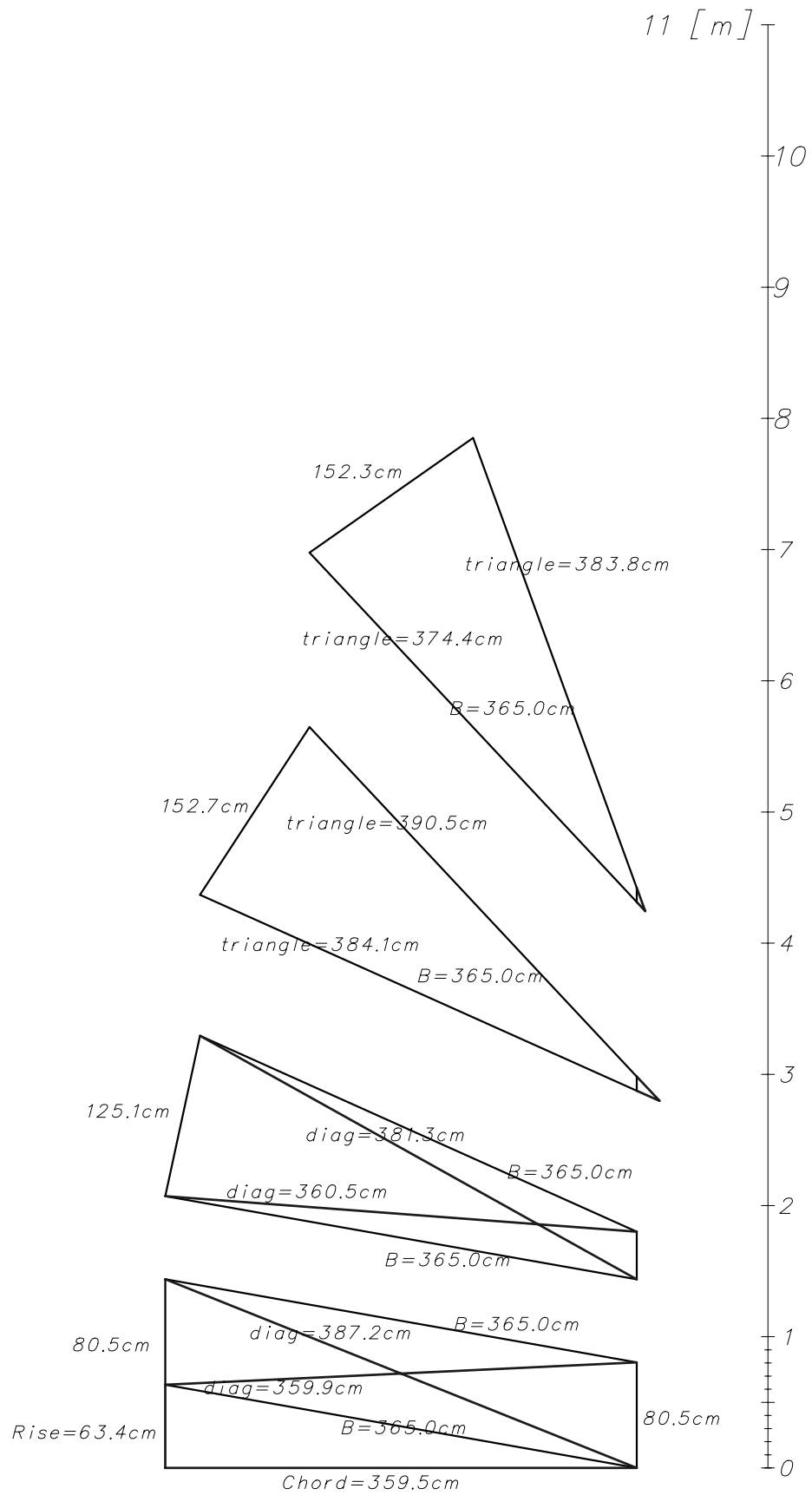
- Sheet 1 (Norw:Ark1) shows the general sailplan with numbers added.
- Sheet 2 shows some more numbers, useful for lofting the sail.
- Sheet 3 shows the rounds needed to produce the camber. In this sail I aimed for 9% camber in panel 4 – 7 and 6% in panel 3.
- Sheet 4 shows the batten pockets.



AR=1.95m SA=20.2kvm

Segl til Greif 650

ARK 1, 18.2.2013
Arne Kverneland

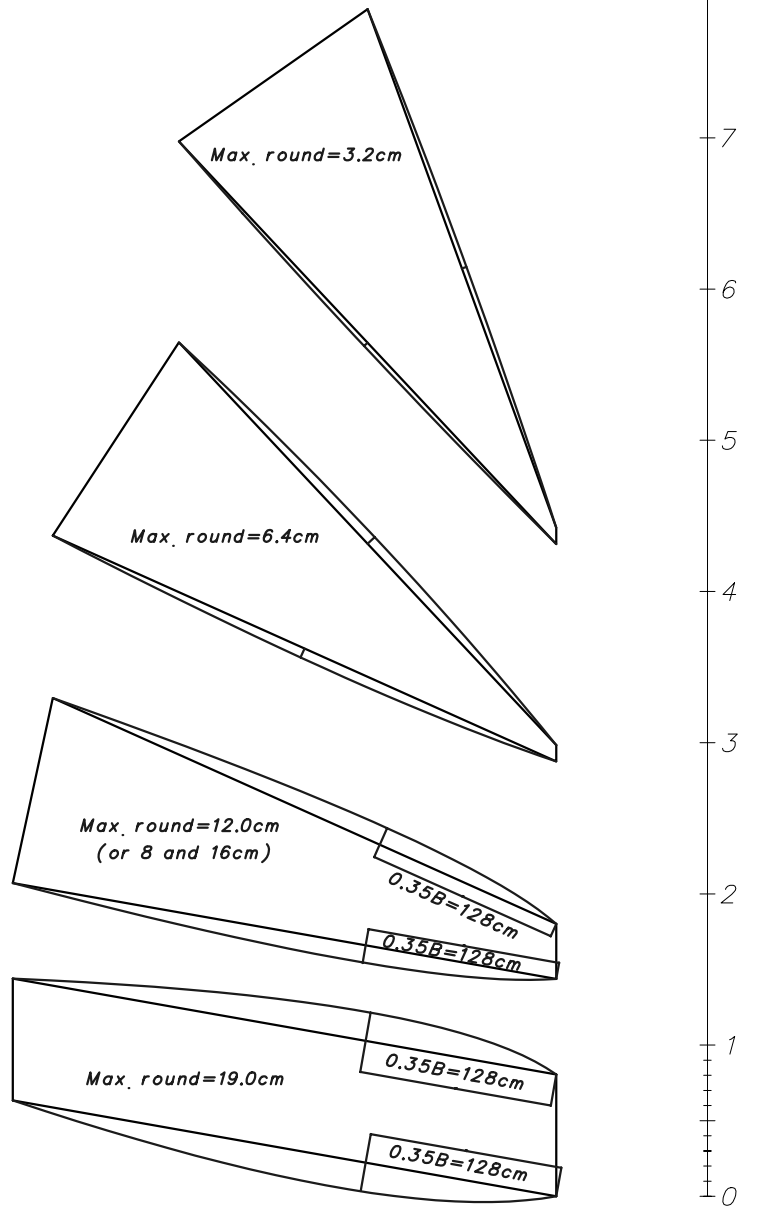


AR=1.95m SA=20.2kvm

Segl til Greif 650

Ark 2, 19.2.2013
Arne Kverneland

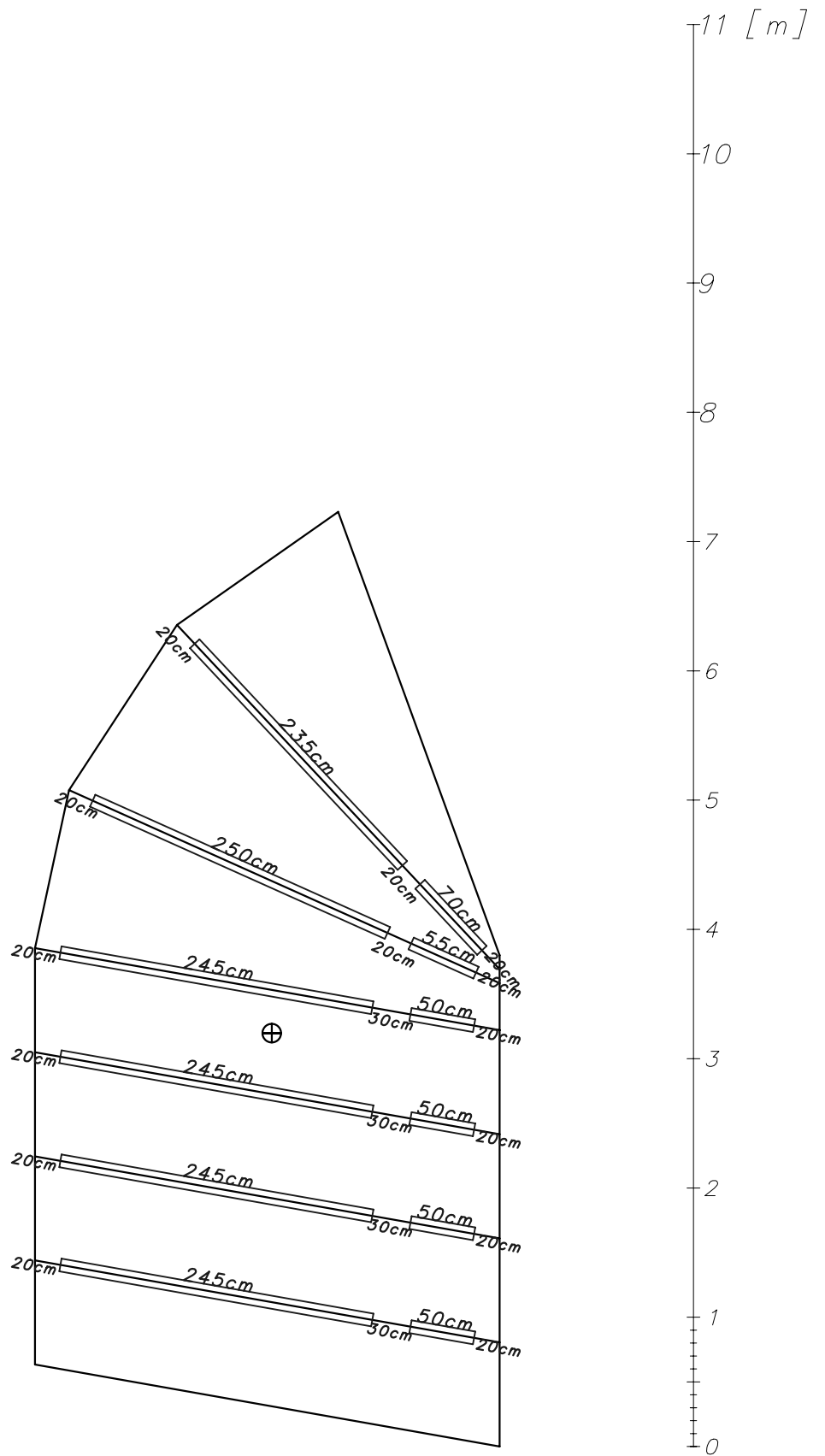
11 [m]



AR=1.95m SA=20.2kvm

Segl til Greif 650

Ark 3, 19.2.2013
Arne Kverneland



AR=1.95m SA=20.2kvm

Segl til Greif 650

Ark 4, 15.3.2013
Arne Kverneland