

Abetong AB - Division Civil Engineering

Project: Stockholms vatten, Bromma Stockholm

Type of facility: Fermenter tank

Concept used: Abetong Tank C14™

Background

- **Stockholm Vatten is a local government company**
- **In 2007 the Åkeshovs facility at Bromma WWTP invested in an extended process for biogas production**
- **The biogas from Bromma is delivered to AGA Gas for distribution to filling stations in Stockholm**



Abetong's part

- Abetong's client was NCC in co-operation with AnjoBygg
- Contracted to build a new fermenter tank
- Abetong was contracted to design, produce and erect the walls and a precast gas proof roof



Basics of the design concept

- Abetong Tank C14™ panels with a height of 14 m were erected upon an in situ cast wall of 5 m giving a total depth of 19 m
- The 21 ton heavy panels were braced to a temporary steel construction
- The top two metres of the walls and the inside of the roof were lined with HDPE sure grip plates and were welded together in all joints



Technical specification-C14™ panels

- **Number:**
 - 27 pcs
- **Width:**
 - 2.34 m
- **Height:**
 - 14 150 mm
- **Weight:**
 - Standard panels, 21 ton. Stressing panel, 28 ton
- **Övrigt:**
 - The panels are vertically pre-stressed and horizontal post tensioned giving a waterproof structure of type: Abetong Tank C14™
 - Wall thickness 240 - 300 mm



Technical specification - Roof slabs

- **Length:**
 - From 10 568 mm to 20 880 mm
- **Width:**
 - From 1 420 mm to 1 800 mm
- **Thickness:**
 - 600 mm
- **Weight:**
 - From 11,5 ton to 34,4 ton
- **Features:**
 - The roof slabs are pre-stressed. Plastic lining cast in during production. Also semi-insulated with eps



Technical specification - Fermenter

- **Volume:**
 - Approx. 6 000 m³
- **Height:**
 - Approx. 19 m
- **Additional:**
 - The joints of the plastic lining are welded on site and tested for gas proof performance.



Installation Abetong Tank C14™

- Erection started in Week 724
- The C14 wall and the roof were finished in Week 728
- The welding of the plastic and other installation continued and were completed in Week 734

