



Our main activities:

- Erection at oil & gas industry plants
- Erection at pharmaceutical plants
- Installation of central heating systems
- Performing maintenance & shut down works
- Prefabrication and erection of piping systems
- Manufacturing & installation of industrial equipments, according to chemical-, oil-, energy- and pharmaceutical industry requirements.



Partial replacement & mechanical erection work of a boiler evaporator in TVK Olefin I. plant.

Prefabrication and erection of membrane walls, collectors and compensators of evaporator; the work was carried out as main contractor.

Tiszaújváros, TVK Nyrt.



Project data:



Customer:
TVK Nyrt.

Designer:
Nitroterv Kft.

Erection period:

Prefabrication:
2009. March – 2009. May

Erection:
2009. May – 2009. June



Task description:

Halbo mce Zrt. replaced the upper part of the boiler evaporator – together with the collectors and compensators belonging to the evaporator – of Olefin I. plant. The complete system had to be acid washed and passivated following the site installation and erection of prefabricated parts. Halbo mce Zrt. carried out the project as main contractor.

Halbo mce Zrt. had maintained effective communication with the customer during the project. Only 48 days had been available for erection on site. Due to the shortage of time at the plant Halbo mce Zrt. assigned the company's most experienced workforce and management personnel to the task.



Project introduction:

The largest capacity olefin plant – TVK Olefin I. – of the MOL-group had started full capacity production in 1975. The central heat-recovery boiler is the most critical equipment of the Olefin-1 plant. The load and usage of the boiler has been expanded with the capacity increase of the Olefin plant. Its major components had worn out sooner and at different times. The plant was brought to a complete halt almost every time by the breakdown and stoppage of the boiler. Repair works had always led to major production loss and high costs. During at such a scheduled maintenance stop Halbo mce Zrt. had replaced the upper section of the evaporator, representing 40% of the complete equipment, starting at 18.950 mm elevation.

According to lifecycle calculations a further 15 years of reliable operation has been guaranteed this way.



Project description:

There'd been 48 days available for the site installation/erection of the prefabricated elements. During the erection numerous other worn out elements had to be prefabricated and installed. In relation to this the original scope defined by the customer had increased by 50%. Keeping to the original 48-day deadline with an increased task had presented a challenge for us. Halbo mce Zrt. had performed the prefabrication and erection with 38 personnel on average. The quantity of working hours performed had exceeded 20000 hrs. In spite of these problems Halbo mce Zrt. had completed the site installation within 47 days.

Performance data:

Typical sizes:

- wing ribbed pipes: $\text{Ø}57,0 \times 5,0$ - $\text{Ø}57,0 \times 6,3$
- distance between pipe walls of membrane walls: 16 mm
- pipes connecting to steam drum: $\text{Ø}88,9 \times 5,0$
- collector pipes: $\text{Ø}159 \times 28$

Typical material qualities:

S235JRG2
P265GH
15Mo/16Mo3
1.4301
1.4841 (H10)



Weld quantities:

$\text{Ø}57,0$ mm: 1.351 pcs
 $\text{Ø}88,9$ mm: 120 pcs
 $\text{Ø}159,0$ mm: 20 pcs
~1.400 m double longitudinal weld

Quantity of insulation: ~250 m², 320 mm thickness

Total weight of craned elements: ~52 tons



Performed inspections:

- Visual inspection: 100%
Penetration: 100%
X-ray: 100%
Videoscope inspection: 100%
Pressure test:
• prefab. elements: 204 Bar, 100%
• installed elements: 174 Bar, 100%

