

## Case Study

# Hungary Thermal Heating Project

### Heating and Cooling

#### Background

Hódmezővásárhely was the first city in Hungary where Bondstrand™ glassfiber-reinforced epoxy (GRE) pipe was used for thermal water. In 2003, more than 2.5 mi (4000 m) of GRE pipelines were installed for the Zalaegerzeg project, which transferred hot water to the city's swimming pool. Due to increasing gas prices, the municipality decided to increase their use of the hot water for district heating purposes.

In the first phase of the project, the city invested in water heating for a housing estate's central heating plant, a technical high school, and a new shopping center. The city installed 8,530 ft (2600 m) of 6 in. Bondstrand 2416 GRE pipe with 95 elbows and fittings, in addition to acquiring the necessary assembly tools and conducting training for the subcontractor.

Our Bondstrand GRE pipe has an extremely low thermal conductivity, which keeps thermal losses to a minimum when compared to traditional steel piping systems. This allows the heating system's initial temperatures to be lower and reduced insulation material, resulting in an energy-efficient process and lower energy costs. The Bondstrand 2400 piping system features a taper/taper adhesive bonded joint, which provides maximum pressure performance throughout the diameter and pressure range. The 2400 product line is well suited for higher pressure applications or where higher service factors are needed.



#### Case study facts

**Location:** Hódmezővásárhely Cascade, Hungary Phase 1

**Customer:** Municipality of Hódmezővásárhely, Hungary

**Time frame:** 2007

**Operating pressure:** 90 psi (6 bar)

**Operating temperature:** 194°F (90°C)

**Test pressure:** 232 psi (16 Bar)

**Product:** Bondstrand 2416 pipe

**Size:** 6 in. (150 mm)

**Design pressure:** 145 psi (10 bar)

**Design temperature:** 212°F (100°C)

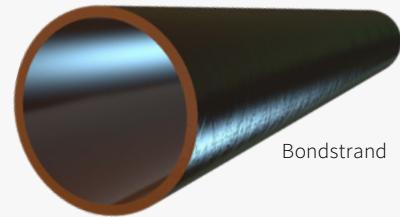
**Jointing system:** Taper/taper (adhesive bonded joint)

#### Bondstrand™ Performance and results:

- Long-term service life up to 30 years
- Corrosion resistant
- Maintenance free
- Lightweight material
- Low thermal conductivity



Taper x Taper-Dualoy



Bondstrand