



## Hydrochloric Acid and Sodium Hydroxide in Steel Factory.

Sodium hydroxide, often referred to as caustic soda, has many different uses across industrial sectors. In the steel industry sodium hydroxide is often used for degreasing and cleaning processes. However, this substance is highly corrosive and must be stored and handled with this hazard in mind. In addition to sodium hydroxide, hydrochloric acid is used for a similar reason. This is also highly corrosive and must be handled with absolute care. Having the right storage facilities and automation processes is crucial for these substances to be handled appropriately.

At a steel sheet factory in Thailand, they were looking to gain level measurement of their hydrochloric acid tanks & sodium hydroxide tanks. With dangerous and corrosive substances, manual techniques are out of the question and the end-user needed an accurate and reliable solution, that wasn't going to be destroyed by the corrosive nature of the substance.

The end-user was having trouble with the existing level measurement system installed on the tanks. The existing level sensor was a flange mount type, where the diaphragm

of the sensor was constantly exposed to solvents, making maintenance for site managers difficult and the sensor prone to wear and tear on the bolt and nut.

The steel factory reached out to Microcems, Pulsar Measurement partner and experts for help. After listening to the troubles that the factory was facing with their existing level measurement system, engineers at Microcems knew that all transducers from Pulsar Measurement were available with a PTFE option, meaning that they are made from a synthetic fluoropolymer of tetrafluoroethylene.

### **PTFE Benefits**

Being hydrophobic, non-wetting, high density, and resistant to high temperatures, PTFE is an incredibly versatile material with a wide variety of applications. PTFE is best known for its non-stick properties. Some advantages of using PTFE coatings include:

- Excellent chemical resistance
- Wide range of service temperature
- Excellent dielectric properties
- Nonstick, low friction
- No embrittlement or aging
- A smooth surface finish can be achieved

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- Non-wetting
- Outstanding corrosion protection
- Electrical insulation
- High thermal stability and flame resistance
- Resistance to weathering

Knowing the highly corrosive nature of the application, Microcems suggested that the steel factory install a dB10 PTFE ANSI flange, designed to offer robust installation in tough applications. Combined with the Ultra Lite controller.

### **Robust Measurement with the Ultra Lite**

The Ultra Lite from Pulsar Measurement is designed to offer ultra-sophisticated and versatile non-contacting ultrasonic measurement and control. The Ultra Lite includes Pulsar Measurement's unique DATEM Echo Processing algorithm for rock-solid performance and incorporates a full suite of high-performance control, monitoring, and measurement features.

### **Measurement Solutions to Suit Your Needs**

Microcems helped with the installation, and the steel factory now gets accurate and reliable level measurement, with a robust level sensor that is fit for purpose.

Pulsar Measurement offers a range of different options to suit a wide variety of applications. Use our product configurator to find the right solution for your application.

To find your local Pulsar Measurement partner visit our Partner Locator: <https://pulsarmeasurement.com/partnerlocator>



## **More Information**

**dB Transducers:** <https://pulsarmeasurement.com/db-transducer>



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