

Application Note

Black Liquor Level Measurements

Application

Black liquor is the waste liquor from the pulping process consisting of most original cooking inorganic elements and the degraded, dissolved wood substance. The latter include acetic acid, formic acid, numerous other carboxylic acids (all as the sodium salts), dissolved hemicelluloses, methanol, and hundreds of other components. The extremely complex mixture must be concentrated to as high a solid as possible before being burned in the recovery boiler.



Tek-Bar 3110A

Exp.-Proof Pressure Transmitters



Challenges

Black liquor offers some unique measurement challenges, such as it is an extremely alkaline material that varies in density, depending on upstream flow. It must undergo many processing stages before the cooking liquor is regained. Containment of the spent liquor must be measured and controlled in a series of intermediate storage tanks. To add to the challenge, the black liquor is sticky and easily coats the surface.

Solution

The Tek-Trol Tek-Bar 3110A pressure transmitters are used to measure the black liquor level. It provides proven and reliable measurement for the liquid level no matter what stage the Black Liquor is in. The process temperature of black liquor is typically 300°F. Therefore, diaphragm seals are used to isolate the transmitter.

