



# Bitumen Tank Safety Monitoring

Bitumen is delivered with up to 230°C and stored in high temperature storage tanks. Spillages from bitumen storage tanks as a result of overfilling cause fatal accidents, environmental disasters and huge financial losses. More than 90% of the spillage accidents are caused by the simple problem that the truck drivers and staff on site are not clearly informed about the true available tank capacity and ullage (remaining empty tank space) due to poor level measurement and safety equipment. Hycontrol offers Eurobitume approved complete bitumen tank safety systems.



## Bitumen Tank Safety

truck offloading monitoring system

## A Combined Solution

- two independent level measurement systems
- a clear tank level display panel
- beacons, traffic lights, sound alarms
- automated ground level instrument testing before filling



## Accurate Level Measurement (TDR Sensor)

The measuring probe for Bitumen tanks will need to withstand exposure to an extremely nasty, high-temperature, sticky product that coats everything that is exposed to its carbonising vapours. Hycontrol recommends TDR technology (Time Domain Reflectometry, or 'Radar on a Rope') for bitumen level measurement (high and low level) which overcome the coating issue inherent in bitumen tanks.

Performance is also not affected by changes in pressure, temperature, dielectric constant, viscosity or condensation of the non-contact radar wave antenna. This makes TDR the perfect solution for hot bitumen.



## An Independent Alarm Switch (RF Admittance)

The High High Level Alarm switch must be independent of the continuous level monitoring gauge. It will also need to be equally resilient to the build-up of product on the sensing element. RF Admittance probes best suit the HHLA requirement as product build-up on the sensor does not impede its function. A protective insulation electrode between the conventional main electrode and the grounding sleeve allows the electronics to distinguish between coating and the actual product level.



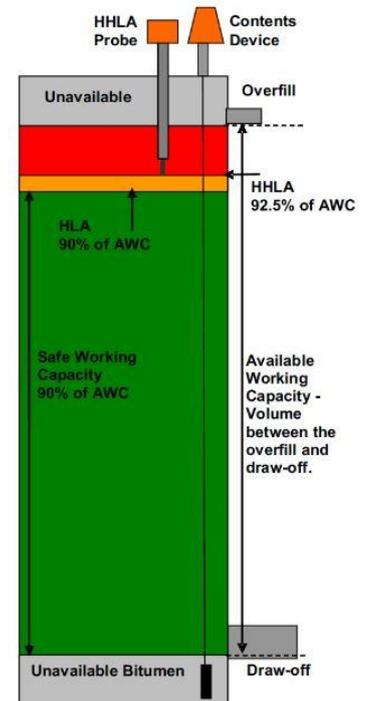
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## Testing Vital Components before Each and Every Fill

Both the HLA and HHLA are tested before each and every fill. A simple one-button test process at the control panel on ground level takes only a few seconds to check the functionality of critical measuring equipment. Only when all equipment has been tested and verified can the filling process be started.

## Clear Displays and Clear Understanding

Hycontrol manufactures a wide range of alarm and test panel solutions with easy-to-see level indicators for single and multi-point sites with optional ATEX approval. These can include displays of contents, ullage and tank temperature and have the option to integrate an independent sound or light alarm via a separate power supply to the panel. The green traffic light clearly indicates to the driver that there is sufficient tank capacity for the truck bitumen discharge.



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