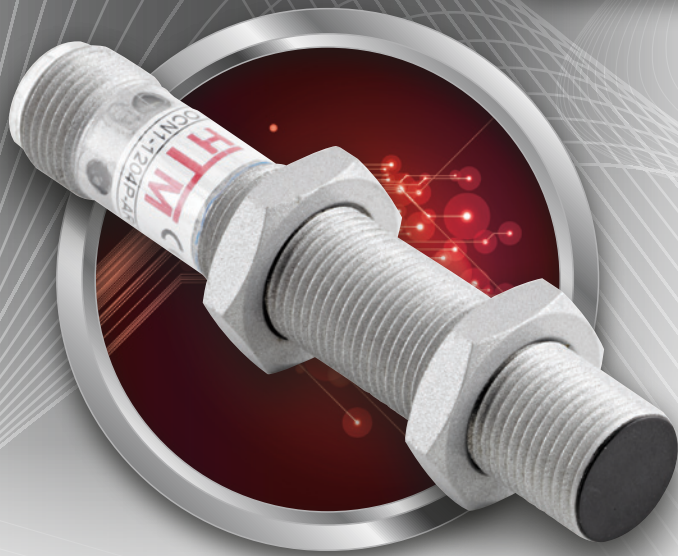


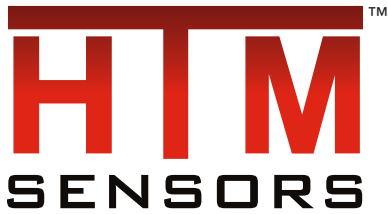


HTMTM
SENSORS

White Paper

Eliminating
**Unplanned
Production Downtime**
Instances Due to Replacement
of Cylinder Sensors
in Mig Welding Cell





Eliminating Unplanned Production Downtime Instances
Due to Replacement of Cylinder Sensors in Mig Welding Cell

Continuous Improvement Opportunity:

The HTM Sensors Cost Reduction Vending System has identified that Production Line Cell 371 had unplanned production downtime instances due to replacement of cylinder sensors.

Cell 371 is a mig welding cell that generates high temperatures and significant weld spatter.

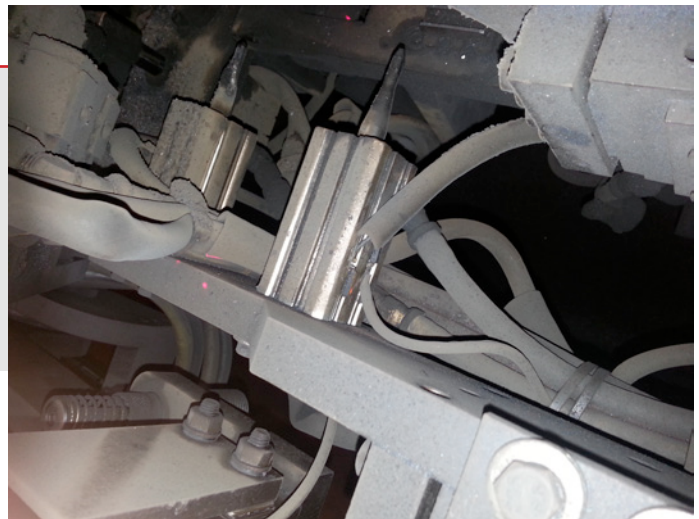
HTM performed an audit on Cell 371 to determine which strategy will best eliminate costs and downtime related to this sensor application.

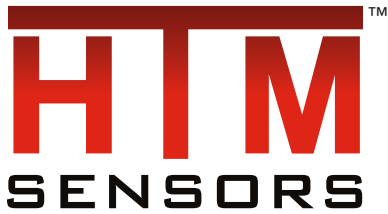
Discussions with Maintenance while observing Cell 371 in action revealed that most cylinder sensors are being replaced in 3 applications. The reason for sensor replacement in these high usage spots is damage due to weld spatter.



Continuous Improvement Proposal:

- 1) Protect these cylinder sensors by wrapping the cylinder itself in a silicone sheet to prevent weld spatter from contacting the sensor and burning the sensor body or connector cable.





Eliminating Unplanned Production Downtime Instances
Due to Replacement of Cylinder Sensors in Mig Welding Cell

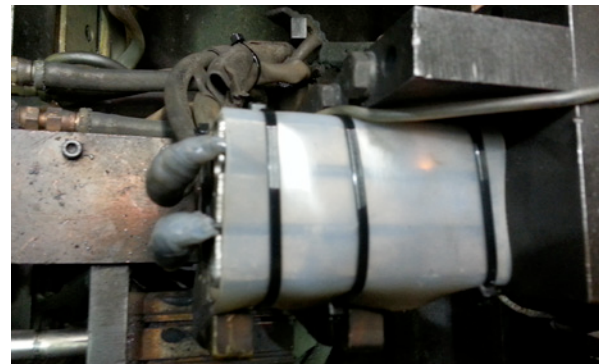
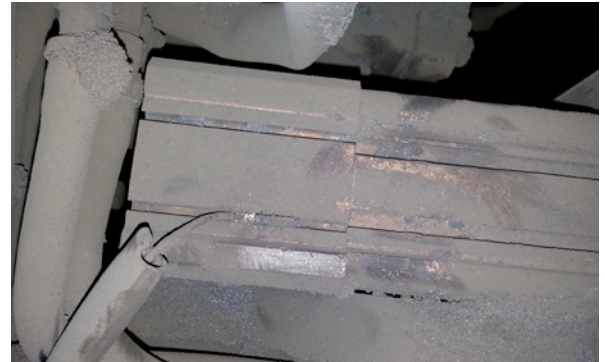
Continuous Improvement Implementation:

HTM identified 22 cylinders on Cell 371 that used C-Slot cylinder sensors for position detection. Each of these cylinders was exposed to heat and weld spatter build up.

Each of these cylinders was wrapped in custom cut silicone sheeting and firmly fastened with tie wraps. The silicone sheeting protects the cylinder sensor from weld spatter damage while ensuring that LEDs are still visible for easy troubleshooting.

To protect the cylinder sensor cable that was not covered by the silicone sheet, silicone tape was administered. Silicone tape has proven to be effective at reducing damage to sensor cables and pig-tail connectors due to weld spatter burns.

Many of the cylinders on Cell 371 are located in very tough to access locations, making sensor replacement time consuming and costly. Reducing sensor replacement on Cell 371 will result in significant cost and downtime reduction.



Result:

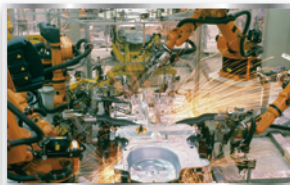
Since installation of the silicone protection, **ZERO cylinder sensors have been vended for Cell 371**. An average of 8 cylinder sensors were replaced on Cell 371 each month. Silicone sheet implementation will result in an **annual savings of \$4,608.00 in product purchases as well as the elimination of 96 unplanned downtime instances**.

\$4,608
ESTIMATED ANNUAL SAVINGS

ELIMINATION OF **96** **UNPLANNED PRODUCTION DOWNTIME INSTANCES**



DOWNTIME REDUCTION VENDING SYSTEM



TOTAL COST SAVINGS WITH CONSIGNMENT SERVICE

- VENDOR MANAGED INVENTORY
- CONSIGNMENT STOCK
- CONTINUOUS IMPROVEMENT DATA
- AUTOMATED USAGE MONITORING

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