

MACHINE SAFETY - ROLL HANDLING

Paper Machine Roll Handling Safety Controls allows lockout zones to keep the rest of the Roll Handling System in operation.



SOLUTION

- Performed Machine Safety Risk Assessment with CMSE®-Certified Machinery Safety Experts (TÜV NORD)
- Defined safety zone areas and specified devices to control zones
- Each zone is not totally independent and some safety devices control multiple zones
- Integration to roll handling and paper machine PLCs
- Siemens S7 PLC system, Siemens Comfort HMI, Profibus networks

RESULTS

- System startup within one week
- Able to process parent rolls without interruption providing higher throughput and a safer environment

PROJECT SUMMARY

At Pieper Automation, we pride ourselves in our unique ability to provide complete industrial automation/controls solutions & services for our customers, including on-site support, integration of machines/systems, new equipment design and machine upgrades. Along with our custom assembly machine manufacturing and panel building, we deliver you a seamless solution – from one supplier.

Pieper Automation has a dedicated team of CMSE®-Certified Machinery Safety Experts (TÜV NORD) who will assess your machine(s) safety, implement solutions to reduce liability, then validate and maintain the results.

The team was contacted by a large paper company that wanted to update the safety of their machine within the Roll Handling area. Our Certified team performed a machine safety risk assessment to determine what and how they could upgrade their paper machine roll handling system to create multiple safety zones as well as achieve a higher safety rating from Safety Category 2 System to a Safety Category 3 System.

The new safety zone system included five zones controlled by a new safety PLC system monitoring multiple safety gates and associated Request to Enter pushbutton stations. A safety mat was integrated into the system to provide additional operator safety and control. The team replaced Twenty (20) VFD drives with Category 3 rated "Safe Off" controls to safely and completely disable the drives within a safety zone without losing 480V power to the motor/drive.

Our design allowed operators to lockout zone(s) of the machine operation and yet keep the rest of the roll handling system in operation, thus allowing higher machine operation and efficiencies.

Pieper Automation provided all PLC and HMI control design, hardware design, programming and control panel as well as providing installation, start-up and commissioning of the system.

Pieper Automation successful implementation and superior safety control solution was quickly realized and the team was asked to implement a similar solution to a second paper machine.



WE ALWAYS FIND A WAY

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