

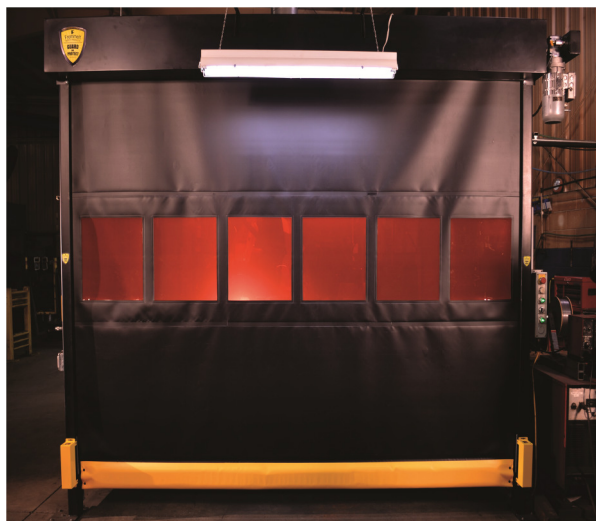


## Machine Guarding Q&A: Changing OSHA Regulations

**Q1: Why are industrial machine control/robotics safety regulations changing from EN 954-1 to EN ISO 13849-1 and EN 60621 standards?**

**A:** Our increasingly complex manufacturing processes are forcing more complex systems required to monitor their safe operation and keep machine operators safe. Automated processes, robotics and even time-tested processes all require considerable attention to assure those processes can proceed both efficiently and safely. EN ISO 13849-1

will ultimately provide for a much safer manufacturing environment because it accounts for the holes that were starting to show in the older standards being replaced.



Guardian Defender

**Q2: How are these standards different from EN 954-1?**

**A:** The differences and advantages of 13849-1 over EN 954-1 is the fact that it is much more quantitative, applies common sense and forces you to validate your safety system where as EN 954-1 was conceptual and only required you to apply safety devices (controls) properly specifying non-programmable, out-of-date technology with no validation requirements. Overall, EN ISO 13849-1 is an improved, more comprehensive safety specification. By adhering to its tenets, the manufacturing environment will be safer and properly guarded machines will be better documented for the long run.

**Q3: How do the new standards improve safety?**

**A:** ISO 13849-1, when broken down to the basics, provides a “clearly” defined set of rules to follow when designing the safety system as applied to industrial machine control systems. It was made necessary by advances in technology for safety control systems and methodology. Once again, the more complex manufacturing systems become the more advanced safety systems need to be to keep the operators, technicians and other workers safe.

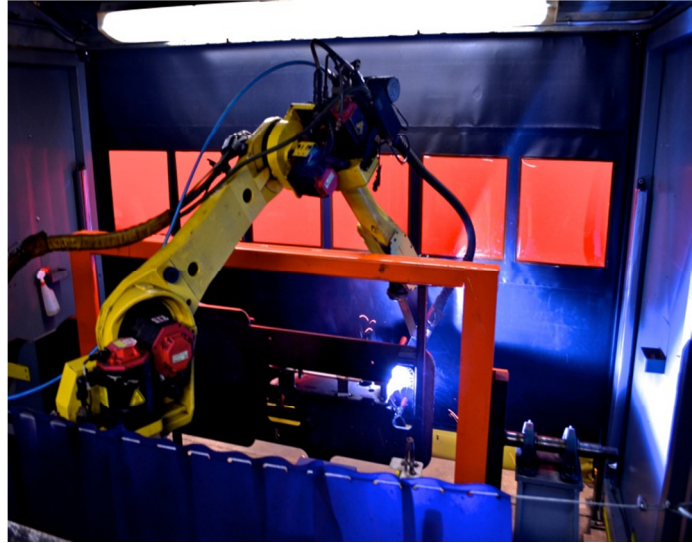
**Q4: What do these changes mean for plastics manufacturers?**

**A:** All types of manufacturing processes will be affected by these changes. With the addition of Robots and CNC operated machinery becoming more prevalent in all types of manufacturing environments, the companies supplying

the machinery and the end users will be will be required to take an active role in assuring a safe and consistent manufacturing environment.

**Q5: What other new machine guarding regulations can we look for?**

A: RIA 15.06 is pending robot safety standard that likely will be revised and ratified. The new standard, which will reference EN ISO 10218-1 (addressing robot systems and integration), will require better hazard identification and mandate risk assessments requiring validation of the safety solutions. It also will mandate designs that incorporate protective measures for the robot cell, the operator and provide for proper training. We don't know exactly when this will be ratified and take effect, but it won't be too far off in the future.



Guardian Defender with robotic welder

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Sources: AVAILABLE UPON REQUEST as needed, recommended or required.