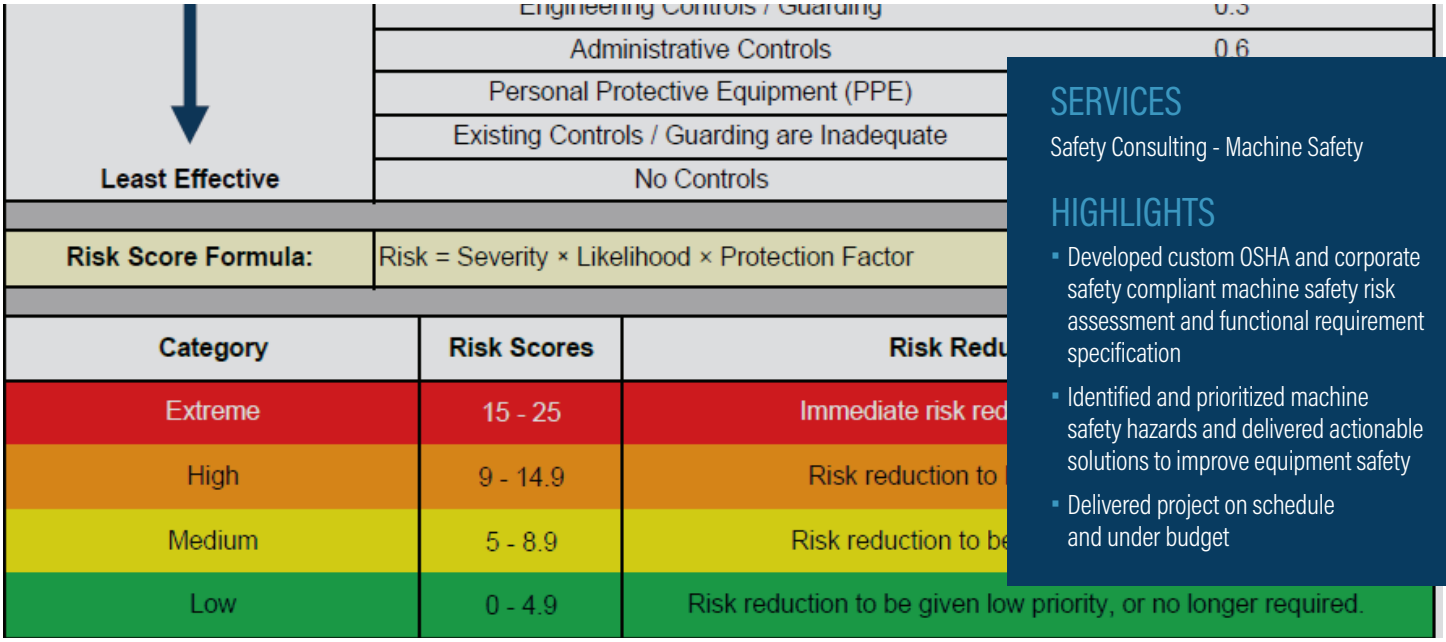
MACHINE SAFETY RISK ASSESSMENT FOR LEADING WHEAT PRODUCTS PRODUCER

ABOUT THE CLIENT

Our client is an American manufacturer of premium distilled spirits and food ingredients, leading food science innovation with their range of cultivated wheat products. They are as equally committed to the safety of their workforce as they are to satisfy the selective tastes of their clients.



	Engineering Controls / Guarding 0.3
	Administrative Controls 0.6
	Personal Protective Equipment (PPE)
	Existing Controls / Guarding are Inadequate
Least Effective	No Controls
Risk Score Formula:	Risk = Severity × Likelihood × Protection Factor

Category	Risk Scores	Risk Redu
Extreme	15 - 25	Immediate risk red
High	9 - 14.9	Risk reduction to
Medium	5 - 8.9	Risk reduction to be
Low	0 - 4.9	Risk reduction to be given low priority, or no longer required.

SERVICES

Safety Consulting - Machine Safety

HIGHLIGHTS

- Developed custom OSHA and corporate safety compliant machine safety risk assessment and functional requirement specification
- Identified and prioritized machine safety hazards and delivered actionable solutions to improve equipment safety
- Delivered project on schedule and under budget

PROBLEM TO SOLVE

A safety incident at one of the manufacturer's production facilities alerted company leadership to the need for a comprehensive assessment of existing safety hazards. Our client turned to the machine safety experts at EAD to develop an OSHA (Occupational Safety and Health Administration) compliant risk assessment of their facility equipment to support their corporate safety initiatives.

APPROACH & SOLUTION

EAD conducted a machine safety risk assessment, evaluating 32 pieces of our client's processing equipment (including extruders, raw ingredient mixers, dryers, and conveyors) to identify potential safety hazards. EAD worked with our client's EHS manager as well as their engineering, operations, and maintenance staff to complete the risk assessment. We identified potential safety hazards associated with each piece of equipment in part by observing how it was used by our client's operations team. We then evaluated how effective existing safety measures were at mitigating the risk posed by each hazard.

We evaluated our client's equipment using a risk matrix and formula that ranked the severity level of potential hazards. The risk matrix considered factors such as the severity and likelihood that an injury might occur, and whether or not existing safety measures were already in place. Using this methodology, we developed a safety rating score for each hazard that identified and prioritized those that posed the greatest risk to worker safety. Finally, EAD evaluated how effective our client's existing safety measures were at mitigating the risk posed by each hazard. Our approach enabled the spirits producer to prioritize and budget their capital funds wisely, investing in guarding solutions for equipment that needed them the most.

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RESULT & BENEFIT

EAD provided our client with a report detailing the findings of the risk assessment as a final deliverable. The report gave recommendations on how to remediate found deficiencies. We also developed a Safety Functional Requirement Specification (SFRS) document that defined which guarding solution to implement based on the findings of the risk assessment. At project completion, we provided validation and maintenance plans to help ensure that the solutions our client chose to implement would perform as intended.

During the evaluation, EAD discovered that our client depended primarily on their lock-out / tag-out procedures to mitigate machine hazards anytime they needed to service a piece of equipment. While this is a good standard practice, it relies on the cooperation of personnel and is therefore considered an administrative protective measure. Our risk assessment identified hazards and risks that could be mitigated through the use of safety interlock devices in addition to lock-out / tag-out in order to reduce the likelihood of human error.

EAD was able to deliver a comprehensive risk assessment and safety functional requirement specification that both met our client's corporate safety objectives and complied with Occupational Safety and Health Administration (OSHA) and TÜV Rheinland Functional Safety Standards. Through working closely with our client at each step of the assessment process, we were able to complete the project under-budget and on schedule.

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