



INTRODUCING RISK ASSESSMENT RISK REDUCTION SOFTWARE

MACHINE RISK ASSESSMENT

Perhaps the most talked about subject regarding machine safety is just how much is enough. While many machine designers are familiar with the term risk assessment, they are uncomfortable with its ambiguous, broad parameters.

It is obvious that the wrong interpretation can lead to costly and perhaps, catastrophic mistakes. Couple this with the multitude of safety standards that apply to specific machine types, it is no wonder why there is so much confusion amongst OEM and Users who are tasked with making these decisions.

Broad knowledge of these standards is only one piece to this puzzle. The responsible party must not only select the correct standard for the specific machine type, they must interpret and apply the standards with consideration to the following variables.

- Severity of Injury
- Exposure, Duration, Extent
- How many people are exposed during a 24 hour period
- Workplace environment
- Reliability of existing safety functions

- Human interference with safety precautions
- Level of training, skill and experience
- Machine history — maintenance, reliability and age
- Possibility to defeat protective measures
- Ability to maintain protective measures

These variables must be addressed to achieve a level of safety that is consistent with the level of risk. A daunting challenge to say the least.

DOCUMENTATION

CE compliance demands that risk assessment be completed and documented. Until recently, risk assessment and documentation only applied to those who wished to export products to member states in the EU. A few US corporations have voluntarily implemented their own risk analysis programs. While their decision to take this

step is admirable, the reality is that their efforts are often inconsistent and misinformed. Considering the overwhelming number of existing US safety standards and their evolution that essentially can mirror those of European Norm Standards, it is nearly impossible to keep up. Let alone proper application of the correct standard.

Times have changed. Recent major re-writes to the NFPA 79 and B11.TR3 clearly require documented risk assessment on all new machines and all existing machines when upgraded/modified. This requirement will be enforced by OSHA. See "Concepts and Techniques of Machine Safeguarding" # 3067

TAKE THE GUESSWORK OUT OF RISK ASSESSMENT

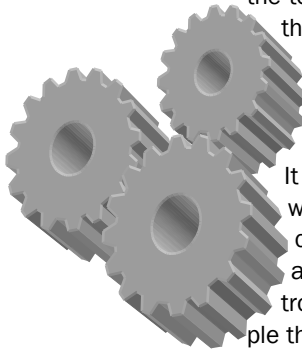
January 2004

RISK ASSESSMENT AUTOMATION IS CRITICAL

- Ensures that all aspects of machine operation and maintenance are identified and responded to.
- Ensures that the correct ANSI Category and Sub-Category are used
- Ensures consistency within multi-plant corporations.
- Networkable risk assessment software can be shared between multi-plant corporations eliminating duplication of efforts & inconsistencies

SOFTWARE RELEASES INCL.

- MACHINE TOOL
- CONVEYOR
- ROBOTICS
- PRINTING
- AMUSEMENT RIDES
- PACKAGING
- PLASTICS



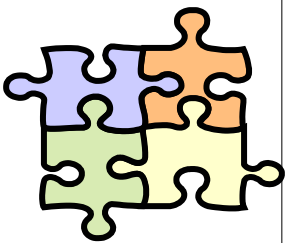
MACHINE HAZARDS ARE NUMEROUS AS ARE THE STANDARDS THAT APPLY. IT IS IMPOSSIBLE TO KNOW THEM ALL

ANY NUMBER OF BEFORE & AFTER PHOTOS CAN BE INCLUDED WITH EACH RISK ASSESSMENT



CURRENT ANSI STANDARDS ARE EMBEDDED INTO THE SOFTWARE

SAVES YOU THOUSANDS OF DOLLARS IN PUBLICATION COSTS AND COUNTLESS HOURS OF RESEARCH



REMOVE DOUBT & UNCERTAINTY BY SELECTING THE CORRECT STANDARD

Risk Assessment/Risk Reduction Software

Welcome
to the
Euchner
Risk Assessment/Risk Reduction Software

This program provides step by step instructions to walk you through a risk assessment of an industrial machine. This uses a hazard based approach rather than a task based approach since often times each hazardous situation involves many tasks. This simplifies the whole process while still achieving the end result - a reduction of risk by properly applied safeguarding methods. The process is divided into the following steps:

1. Registration of Project
2. Machine Information
3. Initial Observations of Hazards
4. Risk Assessments
5. Safeguarding Solutions
6. Risk Reduction
7. Residual Risk

Click on a Step to show a description of that Step

Don't show this again **Click Here to Begin a Risk Assessment**

Initial Observations of Hazardous Situations

3. This procedure records the recognized hazards for the machine as observed before any safeguarding methods have been applied. Comments on existing guarding and it's effectiveness may also be included here. You have the option to choose issues from a list of questions and/or include your own statements about hazards.

Click on the "Hazards" button to enter this procedure.

Category Selection

Select a Major machine category.

Packaging	ANSI B155.1-2000
Plastics Extrusion	ANSI B151.7-1996
Post Extrusion Equip	ANSI B151.6-1982
Power Driven Bender	ANSI B11.15-2001
Press-Brake	ANSI B11.3-1982(R1994)
Press-Extrusion	ANSI B11.17-1996
Press-Hydraulic	ANSI B11.2-1995(R2000)
Press-Mechanical	ANSI B11.1-2001
Press-Platen	ANSI B65.5-1995
Press-Printing	ANSI B65.1-1995
Sawing Machine	ANSI B11.10-1990(R1997)
Screen Changers	ANSI B151.3-1982
Shear	ANSI B11.4-1993

Alphabetical by standard Title
 Numerical by standard Number

Cancel

Clicking on the category button shows a list of ANSI standards to select

Category Selection

Select a Minor machine category.

- Band Saw - Horizontal cutoff
- Band Saw - Vertical cutoff
- Band Saw - Vertical contour
- Circular Saw - Chop
- Circular Saw - Vertical
- Circular Saw - Horizontal/Radial

Cancel OK

Clicking on the ANSI standard brings up a list of ANSI sub categories to select from

Severity of Harm - B11-TR3 Clause 7.2

Evaluate the Severity of Harm without safeguards

Catastrophic - Unable to Return to Work

C1 Death

C2 Quadriplegic - paralysis of both arms & legs

C3 Loss of multiple limbs/senses(sight,hearing)

Serious - Able to return to work at some point

S1 Loss of a limb/sense(one eye, one ear)

S2 Loss of body part (hand, foot, etc.)

S3 Loss of minor body part (fingers, toes, etc.)

Moderate - Able to return to same job

M1 Broken bones (Arm, Leg, etc.)

M2 Broken extremities (Fingers, Toes, etc.)

M3 Cuts/Gashes requiring stitches

Minor - Little or no lost work time

N1 Slight injury requiring no more than first aid

N2 No injury/slight trauma

Severity of Harm level >

Mach ID
Delta Band Saw
Band Saw

Click form to accept

Risk is evaluated based on the recommendations of ANSI B11.TR3

Risk is evaluated first without any safeguarding

Severity of Harm is divided into the 4 major categories of B11.TR3

Subcategories are given severity ratings - a number relative to the degree of possible injury



A MACHINE CAN HAVE MULTIPLE HAZARDS THAT MUST BE INDIVIDUALLY ASSESSED.

Ratings are selected from a dropdown dialog box

Frequency of Exposure - B11-TR3 Clause 7.3.1

How often are personnel exposed to the hazard?

Click on button to select

Constant

Twice per hour

Once per hour

Twice per day

Once per day

Twice per week

Once per week

Twice per year

Once per year

Never

Click form to accept

Probability of Occurance of Harm - B11-TR3 Clause 7.3

Evaluate the Probability of Occurance of Harm without safeguards

Exposure to hazard

Frequency of Exposure (1)Low (10)High

Duration of Exposure (1)Low (10)High

Extent of Exposure (1)Low (10)High

Number of Persons Exposed (1)Low (5)High

Workplace Environment

Environment (5)Poor (1)Good

Reliability of Safety Functions

Reliability (5)Poor (1)Good

Human Factors

Human (5)Poor (1)Good

Personnel who perform tasks

Level of Training (10)Low (1)High

Level of Skill (5)Low (1)High

Level of Experience (5)Low (1)High

Machine/task History

History (5)Poor (1)Good

Possibility to defeat protective measures

Defeat (5)Difficult (1)Easy

Ability to maintain protective measures

Maintain (5)Difficult (1)Easy

Mach ID

Probability of occurrence of harm

Click form To accept

EACH CATEGORY IS GIVEN A RATING REFLECTING THE CONDITIONS OBSERVED

THE RATING IS WEIGHTED BASED ON THE RELATIVE AFFECT ON THE PROBABILITY OF OCCURRENCE

Insert Ship Spacers	82-HIGH
Assemble CTR Sidemember	82-HIGH
Robot Weld and Autopierce Sidebar	81-HIGH
Roll Top-Up to Bottom-Up	81-HIGH
Robot Weld Fixture	81-HIGH
Roll Bottom-up to Top-Up	81-HIGH
Auto Pierce 4x2	81-HIGH
Auto Pierce 4x4	81-HIGH
Roll Top-Up to Bottom-Up	81-HIGH
Auto Stack Frames	81-HIGH
Sidebar Autopierce	80-HIGH
Robot Weld Top-Up	80-HIGH
Manual Weld Fixture 4x2 Top-Up	80-HIGH
Manual Weld Fixture 4x4 Top-Up	80-HIGH
Reinforced X-bar Assy	79-HIGH
Punch and Rivet	77-HIGH
Sidebar Splice	61-MEDIUM
T-bar Assy	38-LOW
Crossmember Assy	35-LOW
Crossmember Assu	34-LOW

A RISK LEVEL IS DETERMINED FROM B11-TR3 AND A NUMBER IS CALCULATED USING THE TOTALS OF THE PROBABILITY OF OCCURRENCE AND SEVERITY OF HARM THAT SHOWS RELATIVE RISK. THIS CAN BE USED AS A MANAGEMENT TOOL



A HIGHER NUMBER MEANS THAT MACHINE OR TASK IS MORE HAZARDOUS THAN ONE WITH A LOWER NUMBER

SPREADSHEETS ARE CREATED AND CAN BE SORTED BY:

- DEPARTMENT
- HAZARD LEVEL
- COST



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More Than Safety

VISIT US AT
EUCHNER-USA.COM



**TWO HOURS OF FOCUSED
MACHINE GUARDING SAFETY
INSTRUCTION**

You are invited to attend a FREE

MACHINE GUARDING SAFETY SEMINAR

PRESENTED BY: EUCHNER-USA.

With over fifty years experience in application, engineering, and promotion of electrical control and safety devices, Euchner manufactures products that have become the standard for machine safeguarding. This course has been conducted for various universities, OSHA regional facilities, insurance companies, and hundreds of industrials throughout North America.

GOALS OF THE SEMINAR

- Present new and better ways to protect employees from injury
- Introduce components and techniques to reduce machine downtime
- Provide insight into new and emerging safety requirements
- Demonstrate ways to reduce liability exposure

TOPICS TO BE COVERED

- ANSI & OSHA Guidelines
- Self-Monitoring Safety Systems
- Risk Assessment/Risk Reduction
- Positive-Opening Contact Design
- Meeting Assessed Risk Levels
- Positive vs. Negative Mode Mounting
- Benefits of Proper Machine Guarding
- Redundancy
- CE Marking & the European Machinery Directive
- Positive-Guided Relays
- Control Reliability
- Fail to Safe Operation

WHO SHOULD ATTEND?

Everyone who is involved in any way with plant safety should attend this course! Today's automated workplace is potentially more hazardous than ever. So is today's legal climate, which holds manufacturers as well as end users increasingly liable for worker injury. Worker safety is an issue of major concern worldwide. OSHA guidelines, ANSI Standards, UL Standards, and the recently adopted European Machinery Safety Directive are a few examples of the emphasis being given to employee safety in the workplace. Attend this seminar and learn how to reduce risk of life, limb and lawsuit.