Hazard Rating System

Description of the Hazard rating system employed by Stuga Machinery Ltd to classify and compare risk

Contents

Description

Machinery Safety Risk Assessments consist of the same basic considerations as any other type of Risk Assessment, and can be carried out by the following step-by-step approach:

- Identify any hazards associated with the machine
- Estimate the risk
- Evaluate the risk

There are a wide range of tools and methodologies available to safety professionals to allow them to estimate the level of risk associated with each identified machine hazard, and determine whether or not the current level of risk is as low as reasonably practicable (ALARP).
One methodology which is frequently used in Machinery Safety Risk Assessments is known as the Hazard Rating Number (HRN) method.

How does the HRN method work?

Using the HRN system, once a machine hazard is identified, numerical values are assigned based on the following factors which aid in estimating and evaluating the risk related to a particular hazard:

- Likelihood of Occurrence (LO)
- Frequency of Exposure (FE)
- Degree of Possible Harm (DPH)
- Number of Persons at risk (NP)

Once the numerical values are assigned to each of the factors above, the hazard rating number (HRN) can be calculated by HRN = LO x FE x DPH x NP. The HRN number can then be equated with an overall risk level, using the tables below.

LO - Likelihood of occurrence score

Almost Impossible	0.033
Highly Unlikely	1
Unlikely	1.5
Possible	2
Even Chance	5
Probable	8
Likely	10
Certain	15

DPH Degree of Possible Harm Score

Scratch or Bruise	0.1
Laceration	0.5

Break Minor Bone	2
Break Major Bone	4
Loss of one limb, eye, hearing	6
Loss of two limbs or eyes	10
Fatatlity	15

FE - Frequency Of Exposure Score

Annually	0.5
Monthly	1
Weekly	1.5
Daily	2.5
Hourly	4
Constantly	

NP - Number of Persons Score

1-2 Persons	1
3-7 Persons	2
8-15 Persons	4
16-50 Persons	8
50+ Persons	12

HRN - Hazard Rating Number

HRN	Risk Level
0-1	Negligible
1-5	Very Low
5-10	Low
10-50	Significant
50-100	High
100-500	Very High
500-1000	Extreme
1000+	Unacceptable