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Str. del Piano, 29 - 06135 Ponte San Giovanni PG

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# Technical data and methods of the machinery: Machinery 01

Name: Machinery 01
Product: M. - Machinery

**Model:** 00 **Serial:** 00

**Revision:** 00 - 08/05/2021

**Year of construction:** 2021

Directive: Dir. 2006/42/EC (EN)

Manufacturer:ManufacturerIntended use:Intended purpose

**Description:** 

# Certification Procedure

The machinery does not complies Annex IV

1. Internal check for machinery production as Annex VIII.

# **CE Marking Process**

# **Risk assessment**

**EN ISO 12100** 

Safety of machinery - General principles for design - Risk assessment and

risk reduction

Tool | EN ISO 12100

- 1. Human interaction during the whole life cycle of the machine
- 2. State of the machine | Operating condition
- 3. Unintended behaviour of the operator or reasonably foreseeable misuse of the machin
- 4. Use limits
- 5. Space limits
- 6. Time limits
- 7. Other limits
- 8. Hazardous situation
- 9. Hazardous event
- 10. Hazard zone
- 11. Initial risk evaluation
- 12. Inherently safe design measures
- 13. Safeguarding
- 14. Complementary protective measures
- 15. Information for use
- 16. Safety signs
- 17. Final risk evaluation
- 18. Residual risk
- 19. Technical standards applied
- 20. Notes
- 21. EHSR

# ISO/TR 14121-2

Safety of machinery - Risk assessment - Part 2: Pratical guidance and examples of methods

The hybrid tool is described in section 6.5 of ISO/TR 14121-2. The hybrid tool combines two of the methods described in the ISO/TR 14121-2. They are usually risk charts (qualitative tool) combined with matrices or scoring systems (quantitative method). The risk factors to be taken into consideration are the same as the tree method (gravity, frequency, probability, and avoidability) and each of them contains different levels to which correspond to different numerical weights. The method is

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Progetto EN ISO 12100	Machinery 01	ry 01 Year:		
Certifico S.r.l.	Mod.: 00	Serial: 00	<b>Rev.:</b> 00	

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and Methods

Data

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Technical Data and Methods

# applied as follows:

- 1. to estabilish the numerical weights for the severity, the frequency, the probability and the avoidability of the damage (see below the tables with the relative numerical weights);
- 2. add the three frequency, probability, and avoidance weights to determine the probability class "CI" (Class) (CI = Fr + Pr + Av);
- 3. insert the Gravity and Class dimensions into a weighting matrix;
- 4. calculate the risk by finding the intersection point of the row (Cl) with the column (Se) of the matrix.

Consequences / Severity		Class	CI (Fr-	+Pr+Av	')	Frequency		Probability		Avoidance	
(Se)	4	5-7	8-10	11-13	14-15	(Fr)		(Pr)		(Av)	
Death, losing an eye or arm	1					<= 1h	5	Very high	5		
Permanent, losing fingers	3					> 1h to <= 24h	5	Likely	4		
Reversible, medical attention	2	?				> 24 to <= 2w	4	Possible	3	Impossible !	5
Reversible, first aid	L					> 2w to <= 1y	3	Rarely	2	Possibile 3	3
						> 1y	2	Negligible	1	Likely	1



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# 1 - Mechanical hazards

# Hazard present

# 1.3 - Crushing

Risk assessment form relating to the danger of crushing, the same danger can occur several times in areas different, multiple evaluation forms will be opened.

At the bottom of the form it will be possible to associate the RESS of Annex I of the relevant Machinery Directive the evaluation of

Risks.

# Human interaction during the whole life cycle of the machine

Human interaction during the whole life cycke of the machine

#### State of the machine | Operating condition

State of the machine | Operating condition

# Unintended behaviour of the operator or reasonably foreseeable misuse of the machine

Unintended behaviour of the operator or reasonably foreseeable misuse of the machine.

#### Use limits

Use limits

### Space limits

Space limits

### **Time limits**

Time limits

### Other limits

Other limits

#### **Hazardous situation**

Hazardous situation

#### **Hazardous event**

Hazardous event

#### **Hazard zone**

Hazard zone

## **Initial risk evaluation**

(Single operator)

Se(3) | Fr(3) + Pr(2) + Av(3) = Cl(8): Safety measures required

ISO/TR 14121-2:2012 p. 6.5 Hybrid Tool

Consequences / Severity		Class	CI (Fr-	+Pr+Av	<b>'</b> )	Frequency	Probability	Avoidance
(Se)	4	5-7	8-10	11-13	14-15	(Fr)	(Pr)	(Av)
Death, losing an eye or arm 4						<= 1h 5	Very high	5
Permanent, losing fingers 3			8			> 1h to <= 24h 5	Likely	1
Reversible, medical attention 2						> 24 to <= 2w 4	Possible 3	Impossible 5
Reversible, first aid 1						> 2w to <= 1y 3	Rarely 2	Possibile 3
						> 1y 2	Negligible 1	L Likely 1

# Inherently safe design measures

Inherently safe design measures

# Safeguarding

Safeguarding

# **Complementary protective measures**

Complementary protective measures

## Information for use

Information for use

# Safety signs



5.24

Warning; Crushing of hands

## Final risk evaluation

Card date: 08/05/2021 - R.A.: HZA-001 Comply



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Progetto EN ISO 12100	Machinery 01		<b>Year:</b> 2021	
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Crushing (HZA-001)

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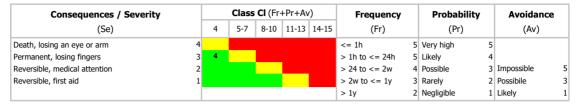
## 1 - Mechanical hazards

# Hazard present

# 1.3 - Crushing

(Single operator)  $Se(3) \mid Fr(2) + Pr(1) + Av(1) = Cl(4): OK$ 

ISO/TR 14121-2:2012 p. 6.5 Hybrid Tool



# Residual risk

Residual risk

# Technical standards applied

Technical standards applied

### Notes

Notes

### EHSR

- 1.1.1 Definitions
- 1.1.2 Principles of safety integration
- 1.1.3 Materials and products

Card date: 08/05/2021 - R.A.: HZA-001

Reduction:

8/3

4/3

Comply



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