

NR-12



White paper

Status: September 2016

Disclaimer

Our white paper has been compiled with great care. It contains information about our company and our products. All statements are made in accordance with the current status of technology and to the best of our knowledge and belief. While every effort has been made to ensure the information provided is accurate, we cannot accept liability for the accuracy and entirety of the information provided, except in the case of gross negligence. In particular, it should be noted that statements do not have the legal quality of assurances or assured properties. We are grateful for any feedback on the contents.

Copyright

All rights to this publication are reserved by Pilz GmbH & Co. KG. We reserve the right to make technical changes. Copies may be made for internal purposes. The names of the products, goods and technologies used are trademarks of the respective companies.

Pilz GmbH & Co. KG
Felix-Wankel-Straße 2
73760 Ostfildern

© 2016 by Pilz GmbH & Co. KG, Ostfildern

Table of Contents

1. NR-12 Summary.....	4
1.1. Introduction	4
1.2. Main Objective	4
1.3. Implications for Employer.....	4
1.4. Implications for Machinery Manufacturers	4
1.5. Law Enforcement	5
1.6. Marking and Documentation	5
2. NR-12 vs other International Laws.....	5
3. Pilz Brazil – CREA registration.....	6
4. Pilz Brazil – NR-12 Services	6
4.1. Machinery Safety Services	6
4.2. Training Services	6

1. NR-12 Summary

1.1. Introduction

In Brazil Regulatory Standards known as NRs specify the required procedures to ensure safety in the workplace. In total there are 36 NRs that are applicable to Safety, including NR-12 in relation to Machinery.

The Regulating Standard 10 or NR-10 is a Work Health and Safety Regulating Standard issued by the Brazilian Ministry of Labour and Employment, which deals with Facilities Safety and Electrical Services.

This Regulating Standard is intended to ensure the safety and health of workers who directly or indirectly interact with electric facilities and services during the phases of: generation, transmission, distribution and consumption, including the steps of design, construction, installation, operation, maintenance of electrical facilities, and any work performed in their immediate proximity.

The NR-12 regulation (regulatory norm) provides technical references, basic principles and protective measures to ensure the health and physical integrity of workers and establishes minimum requirements for the prevention of accidents for the complete lifecycle of a machine.

1.2. Main Objective

The main objective of NR-12 is to ensure that new machines are inherently safe, with complete information on construction, transportation, assembly, use, maintenance and disposal of machinery equipment. The general part of NR-12 includes essential Health and Safety Requirements and covers topics such as:

- Design of the control system
- Electrical installation
- Requirements on guards and protective devices
- Mechanical dimensions of means of access like stairs, walkways and platforms
- Other hazards, such as noise
- Other factors, for example ergonomics
- Procedural needs

1.3. Implications for Employer

Employers need to take protective measures to ensure the health and physical integrity of their workers. NR-12 applies to new and used machinery and equipment and it provides measures for the adaptation of existing machines.

1.4. Implications for Machinery Manufacturers

As defined in its provisions on the applicability of NEW and used machines, manufacturers and series manufacturers in particular provide machines in accordance with NR-12. They can spread the cost of adequacy, reduce the total cost ownership from the end user and so become more competitive than manufacturers who transfer safety requirements costs to the end user.

1.5. Law Enforcement

NR-12 came into force on 17th December 2010. Initially, there was an adjustment period for companies for the compliance with NR-12. Today, this period is finished and all machines should comply with NR-12. The Ministry of Labour Department inspects machinery on a case by case basis with increasing frequency.

1.6. Marking and Documentation

Documentation and proof of compliance with NR-12 has to be available to present it to the authorities. Some of the documentation has to be created by professional safety engineers that are registered through the Brazilian engineering council CREA.

2. NR-12 vs other International Laws

NR-12 bears some similarity with the new Machinery Directive 2006/42/EC (MD) including some concrete requirements from some international and European B-type standards EN ISO 14122, EN 954-1, EN ISO 13855 and 13857 and C-type standards EN 201 and EN 12622.

EN 201:2009	Plastics and rubber machines - Injection moulding machines - Safety requirements
EN 954-1:1996	Safety of machinery - Safety related parts of control systems (obsolete)
EN 1050:1997	Safety of machinery – Principles for risk assessment (obsolete)
EN 12622:2009	Safety of machine tools - Hydraulic press brakes
EN ISO 13855:2010	Safety of machinery - Positioning of safeguards with respect to the approach speeds of parts of the human body
EN ISO 13857:2008	Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs
EN ISO 14122 series	Safety of machinery - Permanent means of access to machinery

NR-12 includes Essential Health and Safety Requirements (EHSR) similar to the Annex I of the new Machinery Directive. In addition, it includes some specific details regarding specific machinery and also detailed mechanical design requirements on guarding, safety distances and the design of ladders, ramps, platforms or walkways. It is very likely that CE-certified machines with redundant safety architecture will meet the requirements of NR-12.

As in the United States of America, NR-12 specifies that the employer must ensure compliance of the machinery with the regulation. Contrary to the U.S., the NR-12 does not include a "grandfather clause" for existing equipment. However, it gives an exact timeline for the compliance with the regulation. Some requirements of the NR-12 exceed, or differ from, U.S regulations or the applicable consensus standards.

3. Pilz Brazil – CREA registration

Pilz Brazil is officially licensed by ART/CREA as a professional company able to provide services for users and manufacturers to meet the NR-12 standard.

Under the NR-12 the term 'Professional Legalmente Habilitado' can be applied to Pilz Brazil, which translates as 'Legally Licensed Professional'.

Pilz Brazil CREA Registration Number: 573132

For further information on the registration and the requirements of NR-12 please contact:

Technical information: Mauricio Barile (m.barile@pilz.com.br)

Commercials: Pedro Torres (p.torres@pilz.com.br)

Pilz do Brasil Automação Segura

Av. Senador Vergueiro, 347/ 355 -Jd. do Mar

09750-000 São Bernardo do Campo

4. Pilz Brazil – NR-12 Services

4.1. Machinery Safety Services

A total compliance approach to the integration of all elements of compliance is essential for achieving competitiveness in efficiency and productivity.

If you are using, buying or selling machinery in Brazil, you need to know the specific requirements of the NR-12. Pilz can be your partner, from risk assessment right through to safety validation, to ensure machine compliance with the requirements of the revised NR-12 standard.

4.2. Training Services

Pilz is positioned internationally as a provider of safety training. We offer customised training on machine safety – tailored to your needs and to normative requirements.

In terms of machinery safety, different regulations apply for end users and manufacturers. As a priority, plant operators must conform to the industrial safety regulations Brazil NR-12 (Brazil).

Based on these requirements, we can individually adapt our machinery safety seminars to specific target groups.

We are represented internationally. Please refer to our homepage www.pilz.com for further details or contact our headquarters.

Headquarters: Pilz GmbH & Co. KG, Felix-Wankel-Straße 2, 73760 Ostfildern, Germany
Telephone: +49 711 3409-0, Telefax: +49 711 3409-133, E-Mail: info@pilz.com, Internet: www.pilz.com

PILZ
THE SPIRIT OF SAFETY