



# A Guide to Brazil's Agricultural Machinery Compliance Requirements



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Agricultural Machinery Compliance  
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# **A Guide to Importing Agricultural Machinery into Brazil**

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# **A Guide to Importing Agricultural Machinery into Brazil**

## 1. Scope

This guide addresses all types of agricultural machinery regulated in Brazil.

## 2. General Overview of the Brazilian Regulatory Framework

Several agencies at the federal level have the authority to issue technical regulations in the particular areas of their competence. Technical regulations are always published in the [Official Gazette](#) and are generally based on international standards.

All agencies follow similar general procedures to issue technical regulations. They can start the preparation of a technical regulation ex officio or at the request of a third party. If the competent authority deems it necessary, a draft regulation is prepared and published in the Official Gazette, after carrying out an impact assessment of the new technical regulation. Technical regulations take the form of laws, decrees or resolutions. Brazil normally allows a six-month period between the publication of a measure and its entry into force.

Public hearings are also a way of promoting the public consultation of the technical regulations. Likewise, when the proposed technical regulation is considered to produce trade effects, this is notified to the WTO in order to allow Members to comment.

The National Institute of Metrology, Quality and Technology ([INMETRO](#)) is responsible for notifying the proposed technical regulations to the World Trade Organization (WTO) and acts as the national enquiry point under the WTO Agreement on Technical Barriers to Trade (TBT). All the projects of technical regulations that impact on international trade, even if those regulations are identical to international standards, are notified to WTO. It is worth noting that the vast majority of Brazil's technical regulations are prepared based on international standards and performance criteria.

In addition to its regulations and conformity assessment procedures, Inmetro notifies to WTO other government agencies' technical requirements, for example, from the National Health Surveillance Agency ([ANVISA](#)), Ministry of Agriculture, Livestock and Supply ([MAPA](#)), the National Petroleum Agency, Natural Gas and Biofuels ([ANP](#)), the Ministry of Mines and Energy ([MME](#)), as well as the National Telecommunications Agency ([ANATEL](#)).

INMETRO is also responsible for receiving international comments concerning the drafts of technical regulations. The private sector, both domestic and foreign, may partake in discussions. After taking all comments and suggestions into account, the responsible body decides whether to adopt a technical regulation, with or without modifications.

With regard to the preparation of technical regulations, in 2007, Brazil adopted the [Guide of Good Regulatory Practices](#), which offers recommendations on how to prepare, revise,

revoke and disseminate technical regulations. This encourages transparency and consistency in regulatory practices. The Guide recommends that public bodies focus on safety, health, environment and consumer protection issues. Nevertheless, there are no mandatory rules of general application to prepare technical regulations. Each entity is responsible for the adoption of technical regulations based on its own procedures.

INMETRO and all other regulators may develop and adopt conformity assessment procedures. The steps followed for conformity assessment procedures are similar to those taken for the preparation of technical regulations. There is a public consultation period and the measure is published in the *Official Gazette*. Conformity assessment procedures that differ from international standards or have considerable economic impact are also notified to WTO by INMETRO.

Based on the specific characteristics of the product, conformity assessment can be carried out through certification, labelling, inspection, sampling and/ or a conformity declaration by the supplier. Certification is performed by accredited third parties and is usually voluntary. Products and services subject to mandatory certification are those that affect consumer health, safety or the environment. Certification is mandatory for toys, which are the object of this study.

Brazil recognizes products and systems certifications carried out by foreign certification agencies that signed a memorandum of understanding (MOU) with the Brazilian certification body or that have an agreement with Inmetro.

INMETRO is also the national body responsible for the accreditation of certification bodies, inspection, training, calibration and testing.

In Brazil, the [Brazilian Association of Technical Standards \(ABNT\)](#) is a non-governmental agency that receives financial support from the federal government. It is responsible for the development of voluntary standards. ABNT represents Brazil in The International Organization for Standardization ([ISO](#)) and The International Electrotechnical Commission ([IEC](#)) and in regional standardisation fora.

To ensure that the standards 'content is updated, standards in effect with more than five years are reviewed. The review process follows international guidelines and includes four months of public consultation through the ABNT website. During the consultation period, interested parties have the opportunity to tell whether the standard should be confirmed, cancelled or updated.

### 3. Regulatory Authorities for Agricultural Machinery

#### 3.1. CONTRAN (National Traffic Council) and DENATRAN (National Department of Traffic)

<http://www.denatran.gov.br/contran.htm>

## **CONTRAN's Technical Regulations**

- I. Resolution No. 281 of June 26, 2008 (Suspended by Contran Resolution No. 93/10. Amends Contran Resolution No. 344/10) – in effect from 07.01.2010.

Establishes criteria for the registration of tractors designed to pull or drag machinery of any kind or to perform agricultural labor or construction and paving.

[http://www.denatran.gov.br/download/Resolucoes/RESOLUCAO\\_CONTRAN\\_281.pdf](http://www.denatran.gov.br/download/Resolucoes/RESOLUCAO_CONTRAN_281.pdf)

- II. Resolution No. 344 of March 5, 2010 (Amends Contran Resolution No. 281/08) – in effect.

Changes the deadline defined in Article 11 of CONTRAN Resolution No. 281 by establishing criteria for the registration of tractors designed to pull or drag machinery of any kind or to perform agricultural labor or construction and paving.

[http://www.denatran.gov.br/download/Resolucoes/RESOLUCAO\\_CONTRAN\\_344\\_10.pdf](http://www.denatran.gov.br/download/Resolucoes/RESOLUCAO_CONTRAN_344_10.pdf)

## **3.2. CONAMA (National Council of Environment)**

<http://www.mma.gov.br/conama/>

### **CONAMA's Technical Regulations:**

- I. Resolution No. 401 of November 4, 2008 – in effect.

Establishes the maximum limits of lead, cadmium, and mercury batteries sold in the country and the criteria and standards for their environmentally sound management, and other measures.

<http://www.mma.gov.br/port/conama/legiabre.cfm?codlegi=589>

- II. Resolution No. 416 of 30 September 2009 – entered into effect one year after publication.

Provides for the prevention of environmental degradation caused by scrap tires and their environmentally sound disposal, and other measures.

<http://www.mma.gov.br/port/conama/legiabre.cfm?codlegi=616>

- III. Resolution No. 433 of July 13, 2011 – will go into effect in January 2015.

Programme for the Control of Air Pollution of Automotive Vehicles – Proconve.

<http://www.mma.gov.br/port/conama/legiabre.cfm?codlegi=654>

## **3.3. MMA (Ministry of Environment)**

<http://www.mma.gov.br/>

### **MMA's Technical Regulation**

I. Law 12305/2010, of August 2, 2010 – enters into effect two years after publication.

Establishes the National Policy on Solid Waste, providing for its principles, objectives, and instruments, as well as guidelines for the integrated management and the management of solid waste, including the hazardous, the responsibilities of generators and public power as well as tools to the public and applicable economic instruments.

<http://www.mma.gov.br/port/conama/legiabre.cfm?codlegi=636>

### **3.4. IBAMA (Brazilian Institute of Environment and Renewable Natural Resources)**

<http://www.ibama.gov.br/>

#### **IBAMA's Technical Regulations**

I. Instruction No. 401, of March 30, 2010. Normative Instruction No. 3 of 30/Março/2010, which deals with CONAMA Resolution No. 401 published in 4/Nov/2008.

<http://www.inteligenciaambiental.com.br/sila/pdf/finsibama3-10.pdf>

II. Normative Instruction 416 of March 18, 2010. Instruction No. 1 of 03/18/2010, which establishes the necessary procedures to comply with CONAMA Resolution No. 416 of 30 September 2009.

[http://www.iusnatura.com.br/News37/news03\\_arquivos/IBAMA\\_1\\_10.pdf](http://www.iusnatura.com.br/News37/news03_arquivos/IBAMA_1_10.pdf)

### **3.5. MTE (Ministry of Labor and Employment)**

<http://portal.mte.gov.br/portal-mte/>

#### **MTE's Technical Regulations**

I. NR 12, of December 17, 2010 – in effect.

Safety at Work in Machinery and Equipment

[http://portal.mte.gov.br/data/files/FF8080812DDC2FF4012DE27B8E752912/NR-12%20\(atualizada%202010\).pdf](http://portal.mte.gov.br/data/files/FF8080812DDC2FF4012DE27B8E752912/NR-12%20(atualizada%202010).pdf)

II. NR 15, of January 28, 2011 – in effect.

Activities in Unhealthy Operations

[http://portal.mte.gov.br/data/files/FF8080812DF396CA012E0017BB3208E8/NR-15%20\(atualizada 2011\).pdf](http://portal.mte.gov.br/data/files/FF8080812DF396CA012E0017BB3208E8/NR-15%20(atualizada%202011).pdf)

III. NR 17, of June 21, 2007 – in effect.

Ergonomics. Parameters for the adaptation of working conditions to the psycho-physiological characteristics of workers, in order to provide maximum comfort, safety and efficient performance

[http://portal.mte.gov.br/data/files/FF8080812BE914E6012BEFBAD7064803/nr\\_17.pdf](http://portal.mte.gov.br/data/files/FF8080812BE914E6012BEFBAD7064803/nr_17.pdf)

IV. NR 18, of August 4, 2011 – in effect.

Conditions and Work Environment in the Construction Industry

[http://portal.mte.gov.br/data/files/8A7C812D3226A41101323B2D85655895/nr\\_18.pdf](http://portal.mte.gov.br/data/files/8A7C812D3226A41101323B2D85655895/nr_18.pdf)

V. NR 31, of March 3, 2005 – in effect.

Safety and Health at Work in Agriculture, Livestock, Aquaculture, Silviculture and Forestry

[http://portal.mte.gov.br/data/files/8A7C812D2E7318C8012F53EC9BF67FC5/NR-31%20\(atualizada\).pdf](http://portal.mte.gov.br/data/files/8A7C812D2E7318C8012F53EC9BF67FC5/NR-31%20(atualizada).pdf)

### **3.6. INMETRO (National Institute of Metrology, Quality and Technology)**

**CAINT (General Coordination of International Affairs)**

**DISBT (Overcoming Technical Barriers Division)**

<http://www.inmetro.gov.br/barreirastecnicas/>

#### **INMETRO's Technical Regulations**

- **Tires**

I. Ordinance No. 399 of October 11, 2011.

<http://www.inmetro.gov.br/legislacao/rtac/pdf/RTAC001749.pdf>

II. Ordinance No. 385 of October 3, 2011.

<http://www.inmetro.gov.br/legislacao/rtac/pdf/RTAC001744.pdf>

III. Ordinance No. 267 of June 21, 2011.

<http://www.inmetro.gov.br/legislacao/rtac/pdf/RTAC001706.pdf>

IV. Ordinance No. 482 of December 7, 2010.



<http://www.inmetro.gov.br/legislacao/rtac/pdf/RTAC001638.pdf>

V. Ordinance No. 444 of November 19, 2010.

<http://www.inmetro.gov.br/legislacao/rtac/pdf/RTAC001622.pdf>

VI. Ordinance No. 429 of November 10, 2010.

<http://www.inmetro.gov.br/legislacao/rtac/pdf/RTAC001619.pdf>

VII. Ordinance No. 86 of March 19, 2010.

<http://www.inmetro.gov.br/legislacao/rtac/pdf/RTAC001542.pdf>.

VIII. Ordinance No. 342 of September 24, 2008.

<http://www.inmetro.gov.br/legislacao/rtac/pdf/RTAC001368.pdf>

- **Emissions**

I. Resolution MDIC / CONMETRO No. 6 of December 18, 2007.

<http://www.inmetro.gov.br/legislacao/resc/pdf/RESC000210.pdf>

- **Engines**

I. Ordinance No. 488 of December 8, 2010.

<http://www.inmetro.gov.br/legislacao/rtac/pdf/RTAC001643.pdf>

II. Ordinance No. 156 of August 25, 2004.

<http://www.inmetro.gov.br/legislacao/rtac/pdf/RTAC000912.pdf>

III. Ordinance No. 31 of January 22, 2004.

<http://www.inmetro.gov.br/legislacao/rtac/pdf/RTAC000879.pdf>

#### 4. Standards Developing Organizations

#### 4.1. ABNT (Brazilian Association of Technical Standards)

<http://www.abnt.org.br/>

##### ABNT's Technical Regulations

- I. ABNT NBR ISO 730:2011, of August 25, 2011 – in effect.  
*Tratores agrícolas de rodas — Engate traseiro de três pontos — Categorias 1 N, 1, 2 N, 2,3 N, 3, 4 N e 4*  
Specifies the dimensions and requirements of the three-point hitch for attaching implements or equipment at the rear of agricultural wheeled tractors.
  
- II. ABNT NBR ISO 4252:2011, of August 16, 2011 – in effect.  
*Agricultural tractors – Operator's workplace, access and exit – Dimensions*  
Specifies the dimensions of the design of agricultural tractors that have a minimum width gauge that exceeds 1150 mm.
  
- III. ABNT NBR ISO 11783-8:2011, of July 8, 2011 – in effect.  
*Tractors and agricultural and forestry machinery: Serial network for data communication and control. Part 8: Definition of the vehicle posts.*  
Specifies a serial data network for control and communication in agricultural or forestry tractors and implements mounted, semi-assembled, self-propelled or towed. Its goal is to standardize the method and format of data transfer between sensors, actuators, control elements and units of storage and display of information, which are mounted on the tractor or the implement or part thereof. Part 8 of ISO 11783 describes the messages needed for tractors and self-propelled implements.
  
- IV. ABNT NBR ISO 26322-1:2011, of May 13, 2011 – in effect.  
*Agricultural tractors and forestry – Safety. Part 1: Conventional tractors.*  
Specifies general safety requirements and their verification for the design and construction of conventional tractors used in agriculture and forestry. These tractors have at least two axles with wheels mounted with tires or tracks instead of wheels and smaller gauge rear axis greater than 1150 mm, with no ballast mass greater than 600 kg.
  
- V. ABNT NBR ISO 12003-1:2011, of March 15, 2011 – in effect.  
*Agricultural and forestry tractors - Roll-over protective structures on (EPC) in wheeled tractors narrow gauge. Part 1: Front-mounted EPC.*

Specifies the procedures for both static and dynamic tests of the rollover protective structure (EPC) mounted in front of agricultural tractors and forestry tractors with narrow gauge. It defines the security zone and the conditions of acceptance for security arches (EPC with two attachments), front drive or tilt, rear including any rear devices, and is applicable to equipped tractors that have specific characteristics.

VI. ABNT NBR ISO 12003-2:2011, of March 11, 2011 – in effect.

*Agricultural and forestry tractors - Roll-over protective structures on (EPC) in wheeled tractors narrow gauge.*

*Part 2: EPC mounted on the rear.*

Specifies the procedures for static and dynamic testing of the rollover protective structure (EPC) mounted at the rear of agricultural tractors and forestry tractors with narrow gauge. It defines the security zone and the conditions for acceptance of rollover protective structures on the two attachment points (ROPS), rigid or tiltable, rear protective structures or cabin, and is applicable to well-equipped tractors that have specific characteristics.

VII. ABNT NBR 13909:2009, of November 17, 2009 – in effect.

*Wheels and rims from road and agricultural vehicles – Terminology*

Defines the technical terms and definitions of wheels and rims used on motor vehicles and their derivatives, or mixed-use load, and its trailer, vans, minibuses, buses, trucks and what they tow.

VIII. ABNT NBR ISO 789-3:2009, of June 5, 2009 – in effect.

*Agricultural tractors - Test procedures.*

*Part 3: Turning diameters and turning space.*

Specifies a method for determining the diameter of the space of spin and spin of agricultural wheeled tractors.

IX. ABNT NBR ISO 3776-2:2009, of March 5, 2009 – in effect.

*Tractors and agricultural machinery - Seat Belts.*

*Part 2: Requirements for strength of anchors.*

Specifies requirements for strength of anchors for safety belts, pelvic restraint, intended for use by operators of agricultural tractors and self propelled machines.

X. ABNT NBR ISO 3965:2009, of February 27, 2009 – in effect.

*Agricultural wheeled tractors - Maximum speeds - Method of determination*

Specifies a method to calculate the theoretical maximum speed of design and a method for measuring the speed of displacement of agricultural wheeled tractors.

XI. ABNT NBR ISO 11783-2:2009, of February 13, 2009 – in effect.

*Tractors and machinery for agriculture and forestry - Serial Network for data communication and control. Part 2: Physical layer.*

Specifies a serial data network for control and communication in agricultural or forestry tractors, implements and mounted, semi-assembled, self-propelled or towed. Its goal is to standardize the method and format of data transfer between sensors, actuators, control elements and display units and storage of information, which are mounted on the tractor, or any part thereof or implement. Defines and describes the physical layer specifications, such as data transmission on a bus to four twisted, unshielded, and transmission rate of 250 Kbit/s network.

XII. ABNT NBR ISO 11783-4:2009, of February 13, 2009 – in effect.

*Tractors and machinery for agriculture and forestry - Serial Network for control and data communication. Part 4: Network layer.*

Specifies a serial data network for control and communication in agricultural or forestry tractors and implements mounted, semi-assembled, self-propelled or towed. Its goal is to standardize the method and format of data transfer between sensors, actuators, control elements and display units and storage of information, whether mounted or part of the tractor or implement. Describes the network layer, which specifies the requirements and services needed for communication between electronic control units (ECU) in different network segments. The various types of network interconnection units are defined in this part.

XIII. ABNT NBR ISO 11783-9:2009, of February 13, 2009 – in effect.

*Tractors and machinery for agriculture and forestry - Serial Network for control and data communication. Part 9: Tractor ECU.*

Specifies a serial data network for control and communication in agricultural or forestry tractors or implements mounted, semi-assembled, self-propelled or towed. Its goal is to standardize the method and format of data transfer between sensors, actuators, control elements and display units and storage of information, whether mounted on the tractor, or a part thereof on the implement. Describes the Tractor ECU, the electronic control unit that provides the gateway of the network between the buses on the tractor and the implement, and perform other tasks.

XIV. ABNT NBR ISO 3776-1:2009, of January 15, 2009 – in effect.

*Tractors and agricultural machinery - Seat belts.*

*Part 1: General location of anchors.*

Specifies the location, relative position, and size of tapped holes for the anchor sets of belts (safety) for pelvic restraint, intended for use by operators of agricultural tractors and self-propelled machines.

XV. ABNT NBR ISO 5700:2009, of January 8, 2009 – in effect.

*Agricultural and forestry tractors - Roll-over protective structures on (EPC) - Static test method and acceptance conditions*

Specifies a static method and conditions for acceptance of the rollover protective structures (cab or frame) on agricultural tractors and forestry tractors.

XVI. ABNT NBR ISO 500-3:2008, of July 7, 2008 – in effect.

*Agricultural tractors - Power take-back types 1, 2 and 3.*

*Part 3: Location and dimensions of power and decision-spline.*

Specifies the manufacturing requirements and the location of the rear power take-off (TDPs) of types 1, 2, and 3 on agricultural tractors.

XVII. ABNT NBR ISO 500-1:2008, of March 17, 2008 – in effect.

*Agricultural tractors - Power take-back types 1, 2 and 3.*

*Part 1: General specifications, safety requirements, dimensions for shield and free area.*

Provides general specifications, including speeds, safety requirements, the dimension to shield and free areas to the rear power take-off (PTO) of types 1, 2 and 3 on agricultural tractors with a gauge setting greater than 1150 mm (tractors with a width adjustment gauge of 1150 mm or less are covered in ISOABNT NBR ISO 500-2).

XVIII. ABNT NBR ISO 500-2:2008, of March 17, 2008 – in effect.

*Agricultural tractors - Power take-back types 1, 2 and 3.*

*Part 2: Tractors narrow-gauge dimensions to shield and free area.*

Specifies the dimensions of the shield and open spaces to the rear power take off (PTO) of types 1 and 2 tractors gauge (gauge width of 1150 mm or less).

XIX. ABNT NBR 15406:2006, of September 4, 2006 – in effect.

*V-belts for agricultural machinery - Combine harvesters – Requirements*

Sets out the main requirements of V-belts for agricultural machines, endless power transmission pulleys in (grooved) with channels for the cross sections of HA, HB, HC, HD, H3V, H5V, H8V, HAA, HBB, HCC, HI, HJ, HK, HL, HM, HN, HO, HQ, J, L, M, on axis running vertically, horizontally or at an angle.

XX. ABNT NBR ISO 9261:2006, from August 21, 2006 – in effect.

*Agricultural irrigation equipment - Emitters and emitting pipe - Specification and test methods*

Establishes the functional and mechanical requirements for emitters and emitters tubes for agricultural irrigation and, where applicable, their connections, and establishes test methods in accordance with the requirements. It also specifies the data to be supplied by the manufacturer to allow correct information, installation, and operation in the field.

XXI. ABNT NBR 15073:2004, April 30, 2006 – in effect.

*PVC corrugated pipes and polyethylene for agricultural subsurface drainage*

Specifies the minimum requirements required for corrugated pipes of PVC and polyethylene, used in agricultural subsurface drainage.

XXII. ABNT NBR 2:2001 ISO 7749-1:2000 - Errata of September 30, 2001 – in effect.

*Agricultural irrigation equipment - Rotating sprinklers.*

*Part 1: Requirements for design and operation.*

Corrects two of 30/09/2001 ABNT NBR ISO 7749-1:2000. Acquisition only by appointment.

XXIII. ABNT NBR ISO 7749-1:2000 - Errata 1:2000, of July 30, 2000 – in effect.

*Agricultural irrigation equipment - Rotating sprinklers.*

*Part 1: Requirements for design and operation.*

Corrects Errata 1 30/07/2000 ABNT NBR ISO 7749-1:2000. Acquisition only by appointment.

XXIV. ABNT NBR ISO 7749-1:2000 Corrected Version: 2001, of January 30, 2000 – in effect.

*Agricultural irrigation equipment - Rotating sprinklers.*

*Part 1: Requirements for design and operation.*

Specifies requirements for design and operation for rotating sprinklers and sprinkler nozzles for agricultural irrigation equipment, and their test methods. It is applied to sprinklers installed in the distribution network for irrigation, operating under the pressures recommended by the manufacturer.

XXV. ABNT NBR ISO 4254-1:1999, of December 30, 1999 – in effect.

*Tractors and machinery for agriculture and forestry - Technical resources to ensure safety.*

*Part 1: General.*

Provides guidelines for the prevention of accidents arising from the use of tractors and agricultural and forestry machinery. It also specifies technical resources to improve the degree of personal safety for operators and others involved in the normal course of operation, maintenance and use, intended to be performed by the user of the machine.

XXVI. ABNT NBR ISO 5675:1999, of August 30, 1999 – in effect.

*Tractors and agricultural machines - fast-acting hydraulic connectors for general application*

Specifies the essential dimensions of coupling and the operational requirements of hydraulic connectors to transmit hydraulic power from the tractors to implements and machines.

XXVII. ABNT NBR NM ISO 5353:1999, of May 30, 1999 – in effect.

*Road machinery, tractors and agricultural machinery and forestry - Seat reference point*

Specifies the method and device used to determine the position of the seat reference point (SIP) for any type of seat designed for road machines as defined in ISO 6165 and for tractors and agricultural and forestry machinery as defined in ISO 3339 -0.

XXVIII. ABNT NBR 14143:1998, of July 30, 1998 – in effect.

*Preparation of surface drainage projects for agricultural purposes - Requirements*

Establishes the minimum requirements necessary for the drafting of superficial drainage for agricultural purposes.

XXIX. ABNT NBR 14144:1998, of July 30, 1998 – in effect.

*Development of projects for underground drainage for agricultural purposes – Requirements*

Establishes the general requirements for preparation and submission of underground drainage projects, in order to remove excess water from the soil to make it suitable for agricultural use or avoid salinization.

XXX. ABNT NBR 14145:1998, of July 30, 1998 – in effect.

*Agricultural drainage - Terminology and symbols*

Defines the terms used in agricultural drainage and the symbols for the preparation of letters, maps and plans that integrate the design of drainage for agricultural purposes.

XXXI. ABNT NBR 10400:1997, of May 29, 1997 – in effect.

*Agricultural tractors - Determination of performance on drawbar - Test procedure*

Prescribes the method for determining the performance of agricultural tractors on the drawbar.

XXXII. ABNT NBR 13769:1997, of January 30, 1997 – in effect.

*Agricultural spray nozzle - Test methods*

Prescribes the test methods to estimate the accuracy of the performance of hydraulic nozzles used in spray application of pesticides.

XXXIII. ABNT NBR 13588:1996, of March 30, 1996 – in effect.

*Tractors, agricultural machinery and implements - Hydraulic cylinders of remote control - Dimensions - Standardization*

Provides the basic dimensions of hydraulic cylinders used in remote control towing agricultural implements, as well as its wide open spaces and its components.

XXXIV. ABNT NBR 13400:1995, of June 30, 1995 – in effect.

*Agricultural tractors - Determination of performance in power outlet - Test method*

Prescribes the method for determining the performance of agricultural tractors in the power outlet.

XXXV. ABNT NBR 7021:1994, of July 30, 1994 – in effect.

*Agricultural tractors - Power take-back - Dimensions*

Provides the dimensions and sets out the requirements for types 1, 2, and 3 of the power take-back of tractors (TDP), establishes the good as free zone around the TDP and the characteristics of the PTO guard.

XXXVI. ABNT NBR 6192:1994, of June 30, 1994 – in effect.

*Flat products made of high carbon steel and bonded, hot-rolled for the manufacture of agricultural equipment*

Sets out the conditions required for ordering, manufacturing and supply of flat steel products and high-carbon low-alloy steel, hot rolled, for the manufacture of agricultural equipment.

XXXVII. ABNT NBR 13145:1994, of May 30, 1994 – in effect.

*Agricultural tractors - Capacity of the hydraulic lifting system - Test method*

Prescribes the method for determining the following performance characteristics of the hydraulic lifting system of agricultural tractors.

XXXVIII. ABNT NBR 7811:1993, of October 30, 1993 – in effect.

*Agricultural tractors - Features and position of the drawbar*

Provides dimensions, locations and static vertical loads to the drawbar of agricultural tractors.

XXXIX. ABNT NBR 12936:1993, of June 30, 1993 – in effect.

*Agricultural sprayers - Terminology*

Defines the terms of the usual components and parts of agricultural sprayers, and its operation.

XL. ABNT NBR 12937:1993, of June 30, 1993 – in effect.

*Machines and implements applicators of pesticides - Terminology*

Defines terms relating to machinery and implements applicators of pesticides.

XXXX. ABNT NBR 11703:1992, of April 30, 1992 – in effect.



*Machines and implements applicators of pesticides - Classification*

Classifies the machines and implements applicators of pesticides.

XXI. ABNT NBR 12319:1992, of April 30, 1992 – in effect.

*Measurement of vibration transmitted to the operator - agricultural wheeled tractors and agricultural machinery - Procedure*

Sets out methods to measure and record the vibration of the human body to which the operator of agricultural wheeled tractors or other farm machinery is exposed. The machine operating conditions and characteristics of the artificial track optional tests are also included in this standard.

XLII. ABNT NBR 12541:1992, of April 30, 1992 – in effect.

*Application of pesticides - Terminology*

Defines the general terms relating to the application of pesticides.

XLIII. ABNT NBR 12548:1992, of April 30, 1992 – in effect.

*Methods of application of pesticides - Terminology*

Defines the terms and methods of application of pesticides.

XLIV. ABNT NBR 12567:1992, of April 30, 1992 – in effect.

*Farm Tractor - Determination of the center of gravity - Test method*

Prescribes the method for determining the center of gravity of agricultural wheeled tractors or mats, with at least two axes.

XLV. ABNT NBR 11380:1990, of November 30, 1990 – in effect.

*Security guards for prop shaft of tractors and agricultural machinery - Laboratory tests - Test method*

Prescribes the methods of laboratory testing to verify the robustness and durability of security guards to driveshaft in a temperature range from -35 ° C to 60 ° C.

XLVI. ABNT NBR 11075:1989, of August 30, 1989 – in effect.

*Harrows teeth - Terminology*

Defines the terms used in the identification of tooth harrows and its components.

XLVII ABNT NBR 11076:1989, of 30 August 1989 – in effect.

*Tooth harrows - Classification*

Classifies tooth harrows according to the power source, coupled to the source of power, chassis and type of teeth.

XLVIII. ABNT NBR 11379:1987, of October 30, 1987 – in effect.

*Symbols for agricultural machinery - Symbols*

Establishes graphic symbols to identify the commands and the operation controls and maintenance of agricultural machinery.

XLIX. ABNT NBR 5556:1986, of December 30, 1986 – in effect.

*Symbols for identification controls, indicators and pilot lights for road and industrial vehicles, road machines and road tractors*

Establishes the symbols that certain controls, indicators, pilot lights and warning instructions or operation of road vehicles, as TB-152, and industrial machinery automotive and road tractors must have in order to ensure identification and facilitate its use.

L. ABNT NBR 9616:1986, of October 30, 1986 – in effect.

*Plies of low density polyethylene for waterproofing of water reservoirs of agricultural use - Specification*

Sets out the conditions required specification pads low density polyethylene for use in waterproofing work of water reservoirs, ponds, reservoirs, dams and barriers for agricultural use.

LI. ABNT NBR 15831:2010, of May 7, 2010 – in effect.

*Road motor vehicles - Removal and reinstallation of engines*

Establishes the general principles for removal, relocation and operation of reciprocating internal combustion engines for road, agricultural, industrial, marine, stationary and rail application as well as their aggregated components and peripherals, from the characteristics as specified by the manufacturer engine, in its various applications.

LII. ABNT NBR 9480:2009, of May 21, 2009 – in effect.

*Cylindrical trunks preserved of eucalyptus for farm buildings - Requirements*

Sets out the minimum conditions required for cylindrical trunks preserved eucalyptus for use in construction of fences, sheds, structures, crops and other similar constructions.

LIII. ABNT NBR 13032:2008 Fixed Version: 2009, of November 3, 2008 – in effect.

*Road motor vehicles. Grinding of reciprocating internal combustion engines*

Establishes general principles for implementing complete overhaul of alternative combustion engines for agricultural, industrial, marine, aviation, stationary, rail application, as well as of its individual components, from the characteristics as specified by the manufacturer engine, in its various applications.

LIV. ABNT NBR IEC 60335-2-76:2007, of December 3, 2007 – in effect.

*Appliances and similar electrical appliances – Safety.*

*Part 2-76: Particular requirements for electrified fence.*

Deals with electrified security fence, having a nominal voltage not exceeding 250V and through which the wire fences of farms, fences of wild and domestic animal control and security fences may be electrified or monitored.

LV. ABNT NBR IEC 60439-2:2004, of August 31, 2004 – in effect.

*Switchgear and low voltage control.*

*Part 2: Particular requirements for prefabricated electrical lines (bus bars systems).*

Applies to electrical lines systems set up on factory and accessories, intended to feed and distribute electricity in buildings for residential, commercial, public, agricultural and industrial use. It also applies to electrical lines systems set up on factory that are designed to incorporate communication and / or control systems or lighting fixtures are designed to feed through elements of derivation, but does not apply to feed rail systems in accordance with IEC 60570.

LVI. ABNT NBR 14335:1999, of June 30, 1999 – in effect.

*Radiators - Performance characteristics - technical terms*

Defines terms relating to the performance characteristics of the types of radiators welded, riveted and bolted for motor vehicles, road, industrial and agricultural tractors.

LVII. ABNT NBR 12722:1992, of August 30, 1992 – in effect.

*Discrimination of services for construction of buildings - Procedure*

Discriminates technical services necessary for the preparation of planning, design, supervision and conduct of buildings, intended specifically for public buildings or private property, residential, commercial, industrial or agricultural.

LVIII. ABNT NBR 12515:1992, of April 30, 1992 – in effect.

*Graphical symbols for systems and components for hydraulic and pneumatic brakes – Symbols*

Establishes the graphic symbols for schematic representations of systems and components of pneumatic and hydraulic brakes of road and industrial vehicles, road machinery and tractors.

LXIX. ABNT NBR 10817:1989, of November 30, 1989 – in effect.

*Trim seal for vehicles - Specification*

Sets out the conditions required for rubber trim seal for outdoor use in road and industrial vehicles, tractors and road machines.

LX. ABNT NBR 10853:1989, of August 30, 1989 – in effect.

*Indicators of the electricity meters of temperature and fuel level - Specification*

Sets out the conditions required for acceptance or receipt of indicators of the electricity meters of temperature and fuel level, used in road vehicles and industrial vehicles, road machinery and tractors.

LXI. ABNT NBR 10853:1989, of August 30, 1989 – in effect.

*Indicators of the electricity meters of temperature and fuel level - Specification*

Sets out the conditions required for acceptance or receipt of indicators of the electricity meters of temperature and fuel level, used in Road and industrial vehicles, road machinery and tractors.

LXII. ABNT NBR 9301:1986, of March 30, 1986 – in effect.

*Trim Brake - Determination of compressibility - Test method*

Prescribes a test method for determining the compressibility lining disc brakes and drum used in road and industrial vehicles and tractors and road machines.

LXIII. ABNT NBR 9079:1985, of October 30, 1985 – in effect.

*Motor vehicle - Determination of internal noise - Test method*

Prescribes the method for obtaining reproducible and comparable measurements of noise inside motor road vehicles of all kinds, including those where the driver and/or passengers occupying a cabin or open passenger compartment or even just a well-defined area, but excluding tractors and farm machinery and earthmoving equipment.

LXIV. ABNT NBR 8832:1985, of April 30, 1985 – in effect.

*Hydrostatic power steering - Terminology*

Defines the terms used to describe the components of the hydrostatic steering motor vehicles designed to industrial vehicles, tractors and agricultural machinery like bulldozers.

LXV. ABNT NBR 15084:2004, of May 31, 2004 – in effect.

*Irrigation - emitter - General requirements and test methods*

Specifies the general requirements and test methods for irrigation emitters.

## 5. Certification and Testing Bodies

### 5.1. Certification Laboratories Listed by Inmetro

### 5.1.1. Tires

#### **I.FCAV - Fundação Carlos Alberto Vanzolini (Foundation Carlos Alberto Vanzolini)**

Address: Rua Camburiú n° 255, Lapa - São Paulo, CEP: 05058-020

Phone: (55) (11) 3836-6566 and Fax: (11) 3832-2070

Email: [certprod@vanzolinicert.org.br](mailto:certprod@vanzolinicert.org.br)

Site: <http://www.vanzolini.org.br>

#### **II. IFBQ - Instituto Falcão Bauer da Qualidade (Falcão Bauer Quality Institute)**

Address: Rua Cenno Sbrighi n° 45, Água Branca - São Paulo, CEP: 05036-010

Phone: (55) (11) 3611-1729 and Fax: (11) 3611-1729

Emails: [sgqifbq@ifbauer.org.br](mailto:sgqifbq@ifbauer.org.br)

[facchini@falcaobauer.com.br](mailto:facchini@falcaobauer.com.br)

Site: <http://www.ifbauer.org.br>

#### **III.TÜV Rheinland do Brasil Ltda (TÜV Rheinland of Brazil Ltd)**

Address: Avenida Paulista, n.º 302 - 2º, 3º e 4º Andar, Bela Vista - São Paulo, CEP: 01310-000

Phone: (55) (11) 3638-5700 and Fax: (11) 3638-5844

Email: [suzete.suzuki@br.tuv.com](mailto:suzete.suzuki@br.tuv.com)

Site: <http://www.tuvbrasil.com.br>

#### **IV.ABNT - Associação Brasileira de Normas Técnicas (Brazilian Association of Technical Standards)**

Address: Av. Treze de Maio,13 - 28º andar, Centro - Rio de Janeiro, CEP: 20031-901

Phone: (55) (21) 3974-2308 and Fax: (21) 3974-2315

Email: [sergio.pacheco@abnt.org.br](mailto:sergio.pacheco@abnt.org.br)

Site: <http://www.abnt.org.br>

#### **V.IQA - Instituto da Qualidade Automotiva (Automotive Quality Institute)**

Address: Alameda dos Nhambiquaras, 1509, Indianópolis - São Paulo, CEP: 04090-013

Phone: (11)5533-4545 and Fax: (11)5533-8867

Email: [iqa@iqa.org.br](mailto:iqa@iqa.org.br)

Site: <http://www.iqa.org.br>

#### **VI.BRTÜV Avaliações da Qualidade S. A. (BRTÜV Quality Assessments)**

Address: Alameda Madeira, 222 - 3º Andar, Cj. 31, Alphaville – Barueri, CEP: 06454-010

Phone (55): (11) 4689-9400 and Fax: (11) 4689-9404

Email: [thfuto@tuv-nord.com](mailto:thfuto@tuv-nord.com)

Site: <http://www.brtuv.com.br>

### **VII. BVQI do Brasil Sociedade Certificadora Ltda (BVQI Certification Society of Brazil)**

Address: Avenida do Café, 277 - 5ª Andar, Vila Guarani - São Paulo, CEP: 04311-200

Phone: (11) 2655-9001 and Fax: (11) 2655-9001

Email: [certificacao.bvqi@br.bureauveritas.com](mailto:certificacao.bvqi@br.bureauveritas.com)

Site: <http://www.bvqi.com.br>

### **5.1.2. Emissions**

#### **I. Physical Acoustics South America Ltd**

Address: Rua Joaquim Antunes, 574. Pinheiros - São Paulo. CEP: 05415-001

Phone: (11) 3082-5111 and Fax: (11) 3064-0713

Email: [pedro@pasa.com.br](mailto:pedro@pasa.com.br)

Site: <http://www.pasa.com.br/pasa/>

#### **II. CEPEL - Centro de Pesquisas de Energia Elétrica (Research Center for Electric Power)**

Address: Av. Olinda, s/n°. Adrianópolis - Nova Iguaçu. CEP: 26053-121

Phone: (21) 2667-8631 and Fax: (21) 2667-8630

Email: [sanguedo@cepel.br](mailto:sanguedo@cepel.br)

Site: <http://www.cepel.br>

#### **III. UL do Brasil Certificações S/C (UL Certifications in Brazil)**

Address: Rua Fidêncio Ramos, 195 - 2º andar. Vila Olímpia - São Paulo. CEP: 04551-010

Phone: (11) 3049 -8300 and Fax: (11) 3049- 8252

Email: [pericles.arilho@br.ul.com](mailto:pericles.arilho@br.ul.com)

### **5.1.3. Engines**

#### **I. INOR - Instituto da Normalização na Segurança, Saúde, Qualidade, Produtividade, Avaliações e Juízo Arbitral (Institute of Standardization in Health, Safety, Quality, Productivity, Assessment and Arbitration)**

Address: Av Rio Branco,307 - Grupo 123. Centro - São Paulo. CEP: 01205-000

Phone: (55) (11) 3333-7218 and Fax: (11) 3333-7218

Email: [faleconosco@inor.org.br](mailto:faleconosco@inor.org.br)

Site: <http://www.inor.org.br>

## **II. IQA - Instituto da Qualidade Automotiva (Institute of Automotive Quality)**

Address: Alameda dos Nhambiquaras, 1509. Indianópolis - São Paulo. CEP: 04090-013

Phone: (11) 5533-4545 and Fax: (11) 5533-8867

Email: [iqa@iqa.org.br](mailto:iqa@iqa.org.br)

Site: <http://www.iqa.org.br>

## **III. BRTÜV Avaliações da Qualidade S. A. (BRTÜV Quality Assessment)**

Address: Alameda Madeira, 222 - 3º Andar, Cj. 31. Alphaville – Barueri. CEP: 06454-010

Phone: (11) 4689-9400 and Fax: (11) 4689-9404

Email: [thfuto@tuv-nord.com](mailto:thfuto@tuv-nord.com)

Site: <http://www.brtuv.com.br>

## **IV. BVQI do Brasil Sociedade Certificadora Ltda (BVQI Certification Society of Brazil Ltd)**

Address Avenida do Café, 277 - 5ª Andar. Vila Guarani - São Paulo. CEP: 04311-200

Phone: (11) 2655-9001 and Fax: (11) 2655-9001

Email: [certificacao.bvqi@br.bureauveritas.com](mailto:certificacao.bvqi@br.bureauveritas.com)

Site: <http://www.bvqi.com.br>

## **V. IBC - Instituto Brasileiro de Certificação (Brazilian Institute of Certification)**

Address: Rua André Rocha, 277. Taquara - Rio de Janeiro. CEP: 22730-521

Phone: (21) 2423-5515 and Fax: (21) 2435-2334

Email: [ibcertt@yahoo.com.br](mailto:ibcertt@yahoo.com.br)

Site: <http://www.ibcrj.org/>

## **VI. ACTA - Supervisão Técnica Independente (Independent Technical Oversight)**

Address: Av. Franklin Roosevelt, 194 - sala 405 e 406. Centro - Rio de Janeiro.

CEP: 20021-120

Phone: (21) 2524-2574 and 2524-3000 and Fax: (21) 2240-2558

Email: [acta@acta.org.br](mailto:acta@acta.org.br)

Site: <http://www.acta.org.br>

## **VII. MVM Certificadora (MVM Certification)**

Address: Rua do Imperador Pedro II, 307 sala 1101. Santo Antônio – Recife. CEP: 50010-240

Phone: (81) 3202-5512 and Fax: (81) 3202-5512/ 5514 e 5518

Email: [mvm@mvm-certificadora.org.br](mailto:mvm@mvm-certificadora.org.br)

Site: <http://www.mvm-certificadora.org.br>

**VIII. ABRACE - Avaliações Brasil da Conformidade e Ensaio (Brazil's Compliance Assessments and Tests)**

Address: Rua Dr. Neto de Araújo, 397-A - Conj. 4D. Vila Mariana - São Paulo.

CEP: 04111-001

Phone: (11) 5575-6987 and Fax: (11) 5575-6987

Email: [executivo@abracesp.org.br](mailto:executivo@abracesp.org.br)

Site: <http://www.abracesp.org.br>

**IX. Certified Serviços de Certificação Ltda (Certified Certification Services Ltd)**

Address: Rua H, nº 40/parte. Retiro - Volta Redonda. CEP: 27275-406

Phone: (21) 3717-4893 and Fax: (24) 3323-7920

Email: [gc.certified@terra.com.br](mailto:gc.certified@terra.com.br)

**5.2 Testing Laboratories Listed by Inmetro**

**5.2.1. Tires**

**I. Goodyear do Brasil Produtos de Borracha LTDA - Laboratórios de Ensaio de Pneu (Goodyear Rubber Products of Brazil LTD - Laboratory Testing of Tires)**

Address: Via Anhanguera- KM 128. Salto Grande, Americana, SP. Brasil.

Phone: (19) 3471-1322 and Fax: (19) 3471-1446

Email: [pedro.teixeira@goodyear.com](mailto:pedro.teixeira@goodyear.com)

Site: <http://www.goodyear.com.br>

**II. Bridgestone do Brasil Indústria e Comércio LTDA (Brazil's Bridgestone Industry and Trade LTD – Laboratório de Avaliação de Produto (Laboratory of Product Evaluation))**

Address: AV. Queirós dos Santos 1.717. Casa Branca, Santo André, SP. Brasil

Phone: (11) 4433-1337 and Fax: (11) 4433-1466

Email: [jpinzan@bfbr.com.br](mailto:jpinzan@bfbr.com.br)

Site: <http://www.bridgestone.com.br>

**III. Pirelli Pneu LTDA – Laboratório de Ensaio Indoor (Pirelli Tires Ltd - Indoor Laboratory Testing)**

Address: Av. Giovanni Batista Pirelli, 871. Vila Homero Thon, Santo André, SP. Brasil

Phone: (11) 4998-5971 and Fax: (11)4998-5313

Email: [vicente.vairo@pirelli.com](mailto:vicente.vairo@pirelli.com)

Site: <http://www.pirelli.com/tyre/br/pt/homepage.html>



**IV. Compañía Hulera Tornel S. A. de CV- Tornel – Centro de Evaluación y Desarrollo**

Address: Calle Nueva Santo Domingo 110. France. Ind. San Anto, Azcapotzalco/México

Phone: (05255) 5354-0200 and Fax: (05255) 5561-2151

Email: [ggonzalez@tornel.com.mx](mailto:ggonzalez@tornel.com.mx)

**V. Maggion Indústrias de Pneus e Máquinas LTDA – Laboratório de Ensaio de Pneus (Tires Laboratory Test)– LEP**

Address: Rua José Campanella, 501. Macedo, Guarulhos, SP. Brasil

Phone: (11) 2229-9200 and Fax: (11) 2229-9293

Email: [qualidade@maggion.com.br](mailto:qualidade@maggion.com.br)

Site: <http://www.maggion.com.br/2011/>

**VI. Laboratório de Ensaios Ouropar LTDA (Ouropar Testing Laboratory LTD)**

Address: Rua Luiz Alegretti, 193- Posto de Atend Autorizado. Licorsul, Bento Gonçalves, RS. Brasil.

Phone: (54) 3455-7500 and Fax: (54) 3451-4002

Email: [labouropar@gmail.com](mailto:labouropar@gmail.com)

**VII. Instituto Lab System de Pesquisas e Ensaios LTDA – Lab System**

Address: Avenida Guinle, 106. Cidade Industrial Satélit, Guarulhos, SP. Brasil.

Phone: (11) 2446-0053 and Fax: (11) 2446-0041.

Email: [ilspe@labsystem.com.br](mailto:ilspe@labsystem.com.br)

Site: <http://www.labsystem.com.br>

**VIII. Industrial Levorin S/A - Laboratório de Ensaio de Pneus Levorin**

Address: Av. Monteiro Lobato, 2.641. São Roque, Guarulhos, SP. Brasil.

Phone: (11) 2464-6500/6591 and Fax: (11) 6464-6639.

Email: [hugo@levorin.com.br](mailto:hugo@levorin.com.br)

Site: [http://www.levorin.com.br/novo\\_site/default.asp](http://www.levorin.com.br/novo_site/default.asp)

**IX. Vipaltec – Pesquisa e Desenvolvimento Tecnológico LTDA**

Address: Rua Itália, 715. Distrito Industrial, Nova Prata, RS. Brasil.

Phone: (54) 3242-3850 and Fax: (54) 3242-2121

Email: [caio.chiomento@vipal.com.br](mailto:caio.chiomento@vipal.com.br)

Site: <http://www.borrachasvipal.com.br/servicosLabTec.asp>

## 5.2.2. Emissions

### **I. General Motors do Brasil LTDA – Laboratório de Emissões do Campo de Provas da Cruz Alta (General Motors of Brazil - Field Emissions Laboratory of Cruz Alta)**

Address: Estrada General Motors, S/Nº. Caldeira, Indaiatuba, SP. Brasil

Phone: (19) 3894-9127/9228 and Fax: (19) 3894-9090

Email: [daniilo.torres@gm.com](mailto:daniilo.torres@gm.com)

### **II. Volkswagen do Brasil - Laboratórios de Emissões Veiculares (Volkswagen of Brazil - Vehicle Emissions Laboratory)**

Address: Estr. Marginal da Via Anchieta, KM 23,5-CPI 1248. Demarchi, S. Bernado do Campo, SP. Brasil

Phone (11) 4347-3773 and Fax: (11) 4347-4193.

Email: [josé.antonio.chiconi@volkswagen.com.br](mailto:josé.antonio.chiconi@volkswagen.com.br)

### **III. Fiat Automóveis S/A – Filial – Laboratório de Emissões e Consumo (Fiat Cars - Branch - Consumption and Emissions Laboratory)**

Address: Avenida do Contorno da Fiat, 3455 - Galpão 50. Dist. Ind. Paulo C. Pena, Betim, MG. Brasil

Phone: (31) 2123-5235 and Fax: (31) 2123-5074

Email: [julio.duarte@br.fptpowertrain.com](mailto:julio.duarte@br.fptpowertrain.com)

### **IV. Ford Motor Company Brasil TDA - Laboratório de Emissões do Campo de Provas de Tatuí (Ford Motor Company Brazil - Emissions Laboratory Proving Ground Tatuí)**

Address: Rodovia SP 127 km 124. Pederneiras, Tatuí, SP. Brasil

Phone: (15) 3205-9718 and Fax: (15) 3205-9705

Email: [esato@ford.com](mailto:esato@ford.com)

### **V. Robert Bosch Ltda Robert – Laboratório de Emissões Veiculares (Vehicle Emissions Laboratory)**

Address: Via Anhanguera, KM 98. Boa Vista, Campinas, SP. Brasil

Phone: (19) 2103-4325 and Fax: (19) 2103-2666

Email: [andre.godoy2@br.bosch.com](mailto:andre.godoy2@br.bosch.com)

**VI. SGS do BRASIL LTDA – Laboratório de Análises (SGS LTDA BRAZIL - Analysis Laboratory)**

Address: Av. Vereador Alfredo das Neves, 480. Almoa, Santos, SP. Brasil

Phone: (13) 2105-9602/ 9576 and Fax: (13) 3296 2921

Email: [jorge.spitti@sgs.com](mailto:jorge.spitti@sgs.com)

**VII. Pontifícia Universidade Católica do Rio Grande do Sul - PUC/RS – Laboratórios Especializados em Eletro-Eletrônica – (Catholic University of Rio Grande do Sul - PUC/RS - Laboratories specializing in Electro-Electronic) LABELO**

Address: Av Ipiranga, 6681- Prédio 30 - Bloco 3 - Sala 200. Partenon, Porto Alegre , RS. Brasil

Phone: (51) 3320-3551 and Fax: (51) 3320-3901

Email: [eseitz@puhrs.br](mailto:eseitz@puhrs.br), [domingos.alves@puhrs.br](mailto:domingos.alves@puhrs.br)

<http://www.puhrs.br/orgaos/labelo/eng/index.php>

**VIII. Instituto Brasileiro de Ensaios de Conformidade LTDA – IBEC (Brazilian Institute of Conformity Testing LTD – IBEC)**

Address: Ro. Jorn. Fran. AG. Pro KM 9 Cod.Tech Town PR 32. Chácara Assay, Hortolândia, SP. Brasil.

Phone: (19) 3845-5965 and Fax: (19) 3845-5964

Email: [fbarbarini@ibec.com.br](mailto:fbarbarini@ibec.com.br)

<http://www.ibec.com.br/en/>

**IX. Fundação CPQD – Centro de Pesquisa e Desenvolvimento em Telecomunicações – Laboratórios da Fundação CPQD (CPQD Foundation - Center for Research and Development in Telecommunications - CPQD Foundation Laboratories)**

Address: Rodovia Campinas – Mogi Mirim KM 118,5. Campinas, SP. Brasil

Phone: (19) 3705-7132/7051/6410 and Fax: (19) 3705-6776

Email: [betecida@cpqd.com.br](mailto:betecida@cpqd.com.br)

**X. Tasqa Serviço Analíticos LTDA. – Laboratório Ambiental (Tasqa Analytical Services LTD - Environmental Laboratory)**

Address: Praça 28 de Fevereiro, 55. Nova Paulínia, SP. Brasil

Phone: (19) 2138 8888 and Fax: (19) 2138.8883

Email: [qualidade@tasqa.com.br](mailto:qualidade@tasqa.com.br)

Site: <http://www.tasqa.com.br>

**XI. Instituto de Pesquisa Eldorado- Laboratório de Ensaios e Teste (Eldorado Research Institute, Laboratory Tests and Testing)**

Address: Avenida Érico Veríssimo, S/N°. Cidade Universitária, Campinas, SP. Brasil

Phone: (19) 3757-3267 / 3092 / 3123 and Fax: (19) 3757-3040

Email: [joaquim.carlos@eldorado.org.br](mailto:joaquim.carlos@eldorado.org.br)

Site: <http://www8.eldorado.org.br/site/>

**XII. Delphi Automotive System do Brasil LTDA – Centro Tecnológico de Piracicaba (Delphi Automotive Systems of Brazil LTDA - Technological Center of Piracicaba)**

Address: Anel Viário Municipal, 195. Unileste, Piracicaba, SP. Brasil

Phone: (19) 3429-5431/5429 and Fax: (19) 3429-5421

Email: [angelo.juliato@delphi.com](mailto:angelo.juliato@delphi.com)

**XIII. Lab Soluções Tecnológicas LTDA - Laboratórios de Ensaios (Lab Technology Solutions LTD - Testing Laboratories)**

Address: Rua Pastor Eurípedes Souza de Oliveria, 135. Centro, Pinhais, PR. Brasil

Phone: (41) 3371-3600/3643/3604 and Fax: (41) 3275-5859

Email: [otto@labtelecom.com.br](mailto:otto@labtelecom.com.br)

**XIV. Analytical Technology: Serviços Analíticos e Ambientais LTDA (Analytical and Environmental Services LTD)**

Address: Rua Bittencourt Sampaio, 105. Vila Mariana, São Paulo, SP. Brasil

Phone: (11) 5904-8800 and Fax: (11) 5904-8801

Email: [anapaula@analyticaltechnology.com.br](mailto:anapaula@analyticaltechnology.com.br)

Site: <http://www.anatech.com.br>

**XV. Corplab Serviços Analíticos Ambientais LTDA (Corplab Environmental Analytical Services LTD)**

Address: Rua Galátea, 1.824. Carandiriu, São Paulo, SP. Brasil

Phone: (11) 2221-0127 and Fax: (11) 2221-0127

Email: [mktakata@corplab.net](mailto:mktakata@corplab.net)

Site: [http://www.corplab.net/web/corplab\\_brasil/corplab\\_brasil\\_servicos.html](http://www.corplab.net/web/corplab_brasil/corplab_brasil_servicos.html)

**XVI. Bachema Serviços Analíticos Ambientais LTDA (Bachema Environmental Analytical Services LTD)**

Address: Rua Agostino Togneri, 115. Jurubatuba, São Paulo, SP. Brasil

Phone: (11) 5634-0112 and Fax: (11) 5634-0102

Email: [adriana.marra@bachema.com.br](mailto:adriana.marra@bachema.com.br)

Site: <http://www.bachema.com.br/>

**XVII. Laboratório São Lucas LTDA. – Ambiental São Lucas – ASL (Laboratory São Lucas LTDA - Environmental São Lucas)**

Address: Rua 21, Nº 470. Estácio, Rio Claro, SP. Brasil

Phone: (19) 3524-8656 and (19) 3524-8657

Email: [datec@aslaa.com.br](mailto:datec@aslaa.com.br)

**XVIII. Instituto de Tecnologia para o Desenvolvimento – LACTEC –Laboratório de Emissões Veiculares - LACTEC- LEME (Institute of Technology for Development – LACTEC - Vehicle Emissions Laboratory – LACTEC- LEME)**

Address: Av Prefeito Lothário Meissner, 01. Jardim Botânico, Curitiba, PR. Brasil.

Phone: (41) 3361-6349 and Fax: (41) 3366-7373

Email: [leme\\_ensaios@lactec.org.br](mailto:leme_ensaios@lactec.org.br)

Site: <http://www.lactec.org.br/pt/>

**XIX. Instituto Nacional de Pesquisas Espaciais – INPE - Laboratório de Emi/Emc/Antenas (National Institute for Space Research - INPE - Laboratory of EMI / EMC / ANTENAS)**

Address: Av. dos Astronautas, 1758. Jardim da Granja, São José dos Campos, SP. Brasil.

Phone: (12) 3208-6296 / Fax: (12) 3941-1884

Email: [emc@lit.inpe.br](mailto:emc@lit.inpe.br)

Site: <http://www.inpe.br>

**XX. Instituto de Certificações Brasileiro S/A. – CertLab**

Address: Rua Maestro Francisco Manoel da Silva, 71. Santa Genebra, Campinas, SP. Brasil

Phone: (19) 3259.1450

Email: [daniilo@icbr-certlab.org.br](mailto:daniilo@icbr-certlab.org.br)

Site: <http://www.certlab.org.br>

**XX. FIT – Flextronics Instituto de Tecnologia - WTL – Wireless Technology Laboratory (Flextronics Institute of Technology - WTL - Wireless Technology Laboratory)**

Address: Rodovia Senador José Ermirio DE Moraes, KM 11. Jardim IPÊ, Sorocaba, SP. Brasil

Phone: (15) 4009.6000 / Fax: (15) 4009.6138

Email: [julio.amorim@fit-tecnologia.org.br](mailto:julio.amorim@fit-tecnologia.org.br)

Site: <http://www.fit-tecnologia.org.br>

**XXI. Tasqa Serviços Analíticos LTDA (Tasqa Analytical Services LTD)**

Address: Avenida Pero Vaz de Caminha, 329 Sala: 01. Bom Retiro, Ipatinga, SP. Brasil

Phone: (31) 3823-4433 and Fax: (31) 3823.4433

Email: [qualidade@tasqa.com.br](mailto:qualidade@tasqa.com.br)

Site: <http://www.tasqa.com.br>

**XXII. Air Services Estudos e Avaliações Ambientais – Air Services Estudos e Avaliações Ltda (Air Services Studies and Environmental Assessments - Air Services Studies and Evaluations LTD)**

Address: Rua Felipe Gadelha, 125. Santana, São Paulo, SP. Brasil

Phone: (11) 2089.6300

Email: [rodolfomarcato@aservices.com.br](mailto:rodolfomarcato@aservices.com.br)

**XXIII. Japh Serviços Analíticos LTDA (Japh Analytical Services)**

Address: Rua Itália, 496. Vila Bressani, Paulínia, SP. Brasil

Phone: (19) 3844.7116 and Fax: (19) 3933.1234

Email: [paulo@japh.com.br](mailto:paulo@japh.com.br)

Site: <http://www.japh.com.br>

**XXIV. Aguapé Soluções Ambientais LTDA (Aguapé Environmental Solutions LTD)**

Address: Rua Antonor Pereira ,827. Jardim Morumbi, Pirassununga, SP. Brasil

Phone: (19) 3562.2008 and Fax: (19) 3562.2008

Email: [lorenzetti@oikosambiental.com.br](mailto:lorenzetti@oikosambiental.com.br)

Site: <http://aguapesolucoesambientais.com.br/>

**XXV. Geovaliar Análises e Consultorias Ambientais LTDA (Geovaliar Analysis and Environmental Consulting LTD)**

Address: Rua Cordoba ,161. STA. Cruz Industrial, Contagem, MG. Brasil

Phone: (31) 3352.3400 and Fax: (31) 3352.3400

Email: [ADM@GEOAVALIAR.COM.BR](mailto:ADM@GEOAVALIAR.COM.BR)

**XXVI. Companhia Brasileira de Metalurgia e Mineração (Brazilian Company of Metallurgy and Mining)**

Address: Fazenda Córrego da Mata ,S/N. Zona Rural, Araxá, MG. Brasil

Phone: (34) 3669.3378 and Fax: (34) 3669.3800

Email: [amenezes@cbmm.com.br](mailto:amenezes@cbmm.com.br)

Site: <http://www.cbmm.com/>

### 5.2.3. Engines

**I. GI Eletro- Eletrônicos LTDA – Laboratórios de Ensaio Elétricos (GI Consumer Electronics LTD - Electrical Testing Laboratories)**

Address: Rua João Stukas, 3312. Jardim São Vicente, Campo Largo, PR. Brasil

Phone: (41) 3391-3257 and Fax: (41) 3391-3258

Email: [clecio-roberto.dambiski@legrand.com.br](mailto:clecio-roberto.dambiski@legrand.com.br)

**II. Tecumseh do Brasil LTDA – Laboratório de Aplicação e Desenvolvimento (Tecumseh Brasil LLC - Application and Development Laboratory)**

Address: Rua Cel José Augusto de Oliveira Salles, 478. Vila Isabel, São Carlos, SP. Brasil

Phone: (16) 3363-7118/7231 and Fax: (16) 3363-7219

Email: [cassio.maule@tecumseh.com](mailto:cassio.maule@tecumseh.com)

**III. Instituto de Eletrotécnica e Energia da Universidade de São Paulo - IEE/USP – Laboratório de Ensaio (Electrotechnics and Energy Institute of the University of Sao Paulo - IEE/USP - Testing Laboratory)**

Address: Av. Professor Luciano Gualberto, 1.289. Cidade Universitária, São Paulo, SP. Brasil

Phone: (11) 3091-2612/2507/2604 and Fax: (11) 3032-7750

Email: [vlamir@iee.usp.br](mailto:vlamir@iee.usp.br)

Site: <http://www.iee.usp.br>

**IV. Cetesb – Companhia Ambiental do Estado de São Paulo – Setor de Laboratório e Emissão Veicular (Environmental Company of São Paulo State - Division of Laboratory and Vehicle Emissions)**

Address: AV. Professor Frederico Hermann Junior – 345. Alto dos Pinheiros, São Paulo, SP. Brasil

Phone: (11) 3133-3696 and Fax: (11)3133-3402

Email: [tdtl@cetesbnet.sp.gov.br](mailto:tdtl@cetesbnet.sp.gov.br)

Site: <http://www.cetesb.sp.gov.br>

**V. Instituto de Pesquisas Tecnológicas do Estado de São Paulo – IPT - Laboratório de Equipamentos Elétricos e Ópticos do Centro de Integridade de Estruturas e Equipamentos (Institute of Technological Research of São Paulo - IPT - Laboratory for Electrical and Optical Center, Integrity of Structures and Equipment)**

Address: Av. Prof Almeida Prado, 532. Cidade Universitária, São Paulo, SP. Brasil

Phone: (11) 3767-4823 and Fax: (11) 3767-4007

Email: [mleite@ipt.br](mailto:mleite@ipt.br)

Site: <http://www.ipt.br>

**VI. Cientec – Fundação de Ciência e Tecnologia – Departamento de Engenharia Eletroeletrônica (Foundation for Science and Technology – Electrical Electronic Engineering Department)**

Address: Av. das Indústrias, 2.270. Distrito Industrial, Cachoeirinha, RS. Brasil

Phone: (51) 3287-2088 and Fax: (51) 3470-2089

Email: [flavio@cientec.rs.gov.br](mailto:flavio@cientec.rs.gov.br)

Site: <http://www.cientec.rs.gov.br/?model=conteudo&menu=161>

**VII. Serviço Nacional de Aprendizagem Industrial - Senai - Centro de Tecnologia Industrial Pedro Ribeiro (National Service of Industrial Learning - Senai - Industrial Technology Center Pedro Ribeiro)**

Address: Av. Luiz Tarquino Pontes, 938. Aracuí, Lauro de Freitas, BA. Brasil

Phone: (71) 3287-8266 and Fax: (71) 3287-8276

Email: [jicarla@cetind.fieb.org.br](mailto:jicarla@cetind.fieb.org.br)

**VIII. Tüv Rheinland do Brasil Ltda. - Laboratório de Ensaios - Divisão Uciee (TÜV Rheinland of Brazil Ltda. - Testing Laboratory - Division UCIEE)**

Address: Rua dos Comerciantes, 220. Jabaquara, São Paulo, SP. Brasil

Phone: (11) 5588-6123 and (11) 5588-6156

Email: [ivan.bornal@br.tuv.com](mailto:ivan.bornal@br.tuv.com)

Site: <http://www.tuvbrasil.com.br/ingles/index.asp>

**IX. Instituto de Tecnologia para o Desenvolvimento – Lactec - Laboratório de Pilhas e Baterias-LACTEC/Bilhas (Institute of Technology for Development - Lactec - Laboratory of Batteries and Baterias-LACTEC/Batteries)**

Address: Br 116, Km 98-S/Nº - Centro Politécnico da UFPR. Jardim das Américas, Curitiba, PR. Brasil.

Phone: (41) 3361-6164 and Fax: (41) 3361-6163

Email: [rodolfo@lactec.org.br](mailto:rodolfo@lactec.org.br)

Site: <http://www.lactec.org.br/pt/>

**X. Instituto de Tecnologia para o Desenvolvimento – Lactec - divisão de serviços eletromecânicos - Lactec/Dvem (Institute of Technology for Development - LACTEC - Electromechanical Services Division)**

Address: BR 116, KM 98-S/Nº - Centro Politécnico da UFPR. Jardim das Américas, Curitiba, PR. Brasil

Phone: (41) 3361-6227 and Fax: (41) 3361-6347

Email: [luminotecnica@lactec.org.br](mailto:luminotecnica@lactec.org.br)

Site: <http://www.lactec.org.br/pt/>

**XI. Instituto Mauá de Tecnologia - Divisão de Motores e Veículos (Maua Institute of Technology - Division of Motor Vehicles and Engines)**



Address: Praça Mauá, 01. Mauá, São Caetano do Sul, SP. Brasil  
Phone: (11) 4239-3000 and Fax: (11) 4239-3131  
Email: [romio@maua.br](mailto:romio@maua.br)  
Site: <http://www.maua.br>

**XII. Instituto de Pesquisas Tecnológicas do Estado de São Paulo – IPT - Centro de Metrologia em Química (Institute of Technological Research of São Paulo - IPT - Center for Metrology in Chemistry)**

Address: Av. Professor Almeida Prado, 532. Cidade Universitária, São Paulo, SP. Brasil  
Phone: (11) 3767-4569 and Fax: (11) 3767-4572  
Email: [heloisaa@ipt.br](mailto:heloisaa@ipt.br)  
Site: <http://www.ipt.br>

**XIII. Companhia de Eletricidade do Estado da Bahia – Coelba - Laboratório de Calibração e Ensaios de Instrumentos Elétricos e Medidores de Energia (Electricity Company of the State of Bahia - Coelba – Laboratory of Testing and Calibration of Instruments Electrical and Energy Meters)**

Address: AV. Edgard Santos, 300. Narandiba, Salvador, BA. Brasil  
Phone: (71) 3370-5682 and Fax: (71) 3370-5697  
Email: [ebsilva@coelba.com.br](mailto:ebsilva@coelba.com.br)  
Site: <http://www.coelba.com.br>

**XIV. Cam Brasil Multiserviços Ltda - Lmee Laboratório de Medidores (Brazil Multiservice Cam Inc. - Lmee Laboratory Meters)**

Address: Av. José Mendonça de Campos, 680. Colubandê, São Gonçalo, RJ. Brasil  
Phone: (21) 2702-8086/8077/8000 and Fax: (21) 2702-8060  
Emails: [laboratorio@cambr.com.br](mailto:laboratorio@cambr.com.br)  
[mquintanilha@cambr.com.br](mailto:mquintanilha@cambr.com.br)

**XV. Cam Brasil Multiserviços Ltda - Laboratório Metrológico cam (Brazil Multiservice Cam Inc. - Lmee Laboratory Meters)**

Address: Av. Eusébio de Queiroz, 3494. Centro, Eusébio, CE. Brasil  
Phone: (85) 3260-6434/6435 / Fax: (85) 3260-6418.  
E-mail: [rodrigogaraio@cambr.com.br](mailto:rodrigogaraio@cambr.com.br)

**XVI. Universidade Federal de Santa Catarina - Maglab - Laboratório de Eletromagnetismo e Compatibilidade Eletromagnética (Federal University of Santa Catarina - Maglab - Laboratory of Electromagnetism and Electromagnetic Compatibility)**

Address: Campos Universitário cp. 5024. Trindade, Florianópolis, SC. Brasil.  
Phone: (48) 3721-7557 and Fax: (48) 3721-7557  
Email: [adroaldo.raizer@gmail.com](mailto:adroaldo.raizer@gmail.com)

Site: <http://www.maglab.ufsc.br>

**XVII. ITEN - Instituto Tecnológico de Ensaios Ltda (ITEN - Technological Institute of Tests LTD)**

Address: Avenida Victor Civita, 2064. Jardim Tereza, Osasco, SP. Brasil

Phone: (11) 3591-4296 / (11) 3431-4145 and Fax: (11) 3591-4296

Email: [seixas@itensp.com.br](mailto:seixas@itensp.com.br)

Site: <http://www.itensp.com.br>

**XVIII. Copel distribuição s/a - PEA Copel (Copel distributions)**

Address: Rua Estrada da Graciosa N° 730. Atuba, Curitiba, PR. Brasil

Phone: (41) 3331-4861 / (41) 3310-5222

Email: [luiz.emilio@copel.com](mailto:luiz.emilio@copel.com)

**XIX. Vijai Elétrica do Brasil Ltda - Laboratório de Testes Elétricos (Vijai Electrical Brazil Ltd - Laboratory Electrical Testing)**

Address: Av. das Indústrias , n° 400 - Bloco A. Distrito Industrial, João Pessoa, PB. Brasil

Phone: (83) 3533-1000 and Fax: (83) 3533-1001

Email: [surya@vijai.com.br](mailto:surya@vijai.com.br)

Site: <http://www.vijai.com.br/>

## 6. Government Partners

**I. CONTRAN**

National Traffic Council (CONTRAN)

National Department of Traffic (DENATRAN)

<http://www.denatran.gov.br/contran.htm>

<http://www.denatran.gov.br/resolucoes.htm>

**II. CONAMA**

National Council of Environment (CONAMA)

<http://www.mma.gov.br/conama/>

<http://www.mma.gov.br/port/conama/legiano.cfm?codlegitipo=3>

### **III. MMA**

Ministry of Environment (MMA)

<http://www.mma.gov.br/>

<http://www.mma.gov.br/sitio/index.php?ido=legislacao.index&tipo=0>

### **IV. IBAMA**

Brazilian Institute of Environment and Renewable Natural Resources (IBAMA)

<http://www.ibama.gov.br/>

<http://www.ibama.gov.br/documentos-recursos-pesqueiros/legislacao>

### **V. MTE**

Ministry of Labor and Employment (MTE)

<http://portal.mte.gov.br/portal-mte/>

<http://portal.mte.gov.br/legislacao/>

### **VI. INMETRO**

National Institute of Metrology, Quality and Technology (INMETRO)

General Coordination of International Affairs (CAINT)

Overcoming Technical Barriers Division (DISBT)

<http://www.inmetro.gov.br/barreirastecnicas/>

[http://www.inmetro.gov.br/legislacao/consulta.asp?seq\\_classe=1](http://www.inmetro.gov.br/legislacao/consulta.asp?seq_classe=1)

### **VII. ABNT**

Brazilian Association of Technical Standards (ABNT)

<http://www.abnt.org.br>

<http://www.abntnet.com.br>

<http://www.abntcatalogo.com.br/>

## **7. Major Market Entities**

### **I. Brazilian Association of Machinery and Equipment (ABIMAQ)**

<http://www.abimaq.org.br/>