



Ecolabel for Textile floor coverings

PE-158.03

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0 Introduction

ABNT's Environmental Labeling program was developed to support a continuing effort to improve and/or maintain environmental quality by reducing the consumption of energy and materials, as well as minimizing the impacts of pollution generated by the production, use and disposal of products and services.

This document has been prepared based on an overview of the life cycle assessment of the product, as established in the standard ABNT NBR ISO 14024, for type I ecolabelling programs, and on information from specifications for similar products from other environmental ecolabelling programs developed by other members of the Global Ecolabelling Network (GEN).

1 Objective

This procedure establishes the requirements that the product "Textile floor coverings", available on the Brazilian market, shall comply to in order to obtain a license for the use of the ABNT Environmental Quality Mark (ABNT Ecolabel).

2 Normative references

The documents listed below contain dispositions which, when cited in this text, constitute valid requirements for this procedure. The editions indicated where valid at the time of this publication. Because the documents are subject to revision, it is recommended to those who use this procedure investigate the utilization of the most recent edition of the documents indicated.

- ABNT NBR ISO 14001:2004 - Environmental management systems - Requirements with guidance for use;
- ABNT NBR ISO 14020:2002 - Environmental labels and declarations - General principles;
- ABNT NBR ISO 14024:2004 - Environmental labels and declarations - Type I environmental labelling - Principles and procedures;
- ABNT NBR 10004:2004 - Solid residues – Classification;
- ABNT NBR ISO 14040:2001 - Environmental management - Life cycle assessment - Principles and framework;
- PG-11 - General Procedure for ABNT Environmental Quality Label;
- PG-12 - Guidelines for preparing ABNT Environmental Quality Label criteria;
- ASTM D2859 - Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials);
- ASTM D5116 - Standard Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions From Indoor Materials/Products;
- BS EN ISO 9239-1:2002 - Reaction to fire tests for floorings - Part 1: Determination of the burning behaviour using a radiant heat source;
- Diretiva 67/548/CEE - Laws, regulations and administrative provisions relating to the classification, packaging and labeling of dangerous substances;
- ABNT NBR 11232:1990 - Textile floor coverings - Fire behavior - Testing of the tablet at room temperature - Test method.

Obs: The documents PG-11 and PG-12 can be found in their latest versions through the link:
<http://www.abnt.org.br/rotulo>.



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3 Definitions

3.1 Type I ecolabelling program

Voluntary, multiple-criteria-based third party programme that awards a license which authorizes the use of environmental labels on products, indicating overall preferability of a product within a particular product category based on life cycle considerations (ABNT NBR ISO 14024).

3.2 Life cycle assessment (LCA)

LCA considers the environmental impacts along the product's life (from cradle to grave) since the extraction of raw materials to manufacture, use and final disposition. The general categories of environmental impacts to be considered include the exhausting of resources, the human health and the ecological consequences.

4 Acronyms

The acronyms used in the text of this procedure are the following:

- ABNT - Brazilian Association of Technical Standards
- LCA - Life Cycle Assessment
- CT - Technical Coordination
- GSI - Systems Certification Management
- ISO - International Organization for Standardization
- GEN - Global Ecolabeling Network
- FISPQ - Information Sheet for Chemical Products
- IBAMA - Brazilian Institute for Environment and Renewable Natural Resources
- CONTRAN - National Traffic Council
- ANTT - National Agency of Ground Transportation
- VNG - Vehicle Natural Gas
- CLT - Consolidation of Labor Laws
- CTC - Technical Certification Committee
- VOC - Volatile Organic Compounds

5 Scope of products

This procedure, comprised in the category of textile products, includes textiles for floor coverings. Textile floor covering shall be understood as products generally of woven fabrics, knitted or quilted textiles, usually mounted with tacks or staples, or by means of adhesives.

6 Criteria

6.1 Performance Criteria (fitness for purpose)

The product shall be suitable for its intended purpose. Certain quality and durability patterns may be inherent to the product itself.



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The manufacturer must demonstrate sufficient quality of the product through a program of self-monitoring. Laboratory tests shall be performed preferably on the basis of Brazilian technical standards and the results must demonstrate the suitability for use of the product. The process of self-monitoring must demonstrate that the product maintains the quality level expected over time. Where there is no standardization in Brazil recognized international standards may be used, provided the source and description of the test are indicated.

If the product is intended for exportation, it might comply to the requirements of standards and/or regulations applicable and required in its target market.

The following criteria apply to the carpet as the final product. The tests shall be performed according to each situation.

6.1.1 The flammability test according to ABNT NBR 11232 or ASTM 2859 must have a result describing that the product is not flammable.

6.1.2 The test for specific optical density of smoke in accordance with ASTM E 662-06 must have a parameter less than 450.

6.1.3 In the test for determining the flow of radiant energy in accordance with BS EN ISO 9239-1:2002, the class of the material must be equal to or less than Class "C".

6.2 Criteria for raw material

6.2.1 The colourings listed below shall not be used in yarns and fibers:

Colourings	C.I. structure number	CAS N ^{br}
C.I. Disperse Blue 3	C.I. 61 505	2475-45-8
C.I. Disperse Blue 7	C.I. 62 500	3179-46-9
C.I. Disperse Blue 26	C.I. 63 305	
C.I. Disperse Blue 35		12222-75-2
C.I. Disperse Blue 102		12222-97-8
C.I. Disperse Blue 106		12223-01-7
C.I. Disperse Blue 124		61951-51-7
C.I. Disperse Brown 1		23355-64-8
C.I. Disperse Orange 1	C.I. 11 080	2581-69-3
C.I. Disperse Orange 3	C.I. 11 005	730-40-5
C.I. Disperse Orange 37		
C.I. Disperse Orange 76	C.I. 11 132	
C.I. Disperse Red 1	C.I. 11 110	2872-52-8
C.I. Disperse Red 11	C.I. 62 015	2872-48-2
C.I. Disperse Red 17	C.I. 11 210	3179-89-3
C.I. Disperse Yellow 1	C.I. 10 345	119-15-3
C.I. Disperse Yellow 9	C.I. 10 375	6373-73-5



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C.I. Disperse Yellow 39		
C.I. Disperse Yellow 49		

No azo colourings which can be decomposed in any of the following aromatic amines shall be used:

AMINE	CODE	AMINE	CODE
4-aminodifenile	(92-67-1)	3,3'-dimetil-4,4'-diaminodifenilmethane	(838-88-0)
Benzidine	(92-87-5)	p-cresidine	(120-71-8)
4-chloro-o-toluidine	(95-69-2)	4,4'-oxidianiline	(101-80-4)
2-naftilamine	(91-59-8)	4,4'-tiodianiline	(139-65-1)
o-aminoazotoluene	(97-56-3)	o-toluidine	(95-53-4)
2-amino-4-nitrotoluene	(99-55-8)	2,4-diaminotoluene	(95-80-7)
p-chloroaniline	(106-47-8)	2,4,5-trimetilaniline	(137-17-7)
2,4-diaminoanisoole	(615-05-4)	4-aminoazobenzene	(60-09-3)
4,4'-diaminodifenilmethane	(101-77-9)	o-anisidine	(90-04-0)
3,3'-dichlorobenzidine	(91-94-1)	2,4-xilidine	(95-68-1)
3,3'-dimetoxibenzidine	(119-90-4)	2,6-xilidine	(87-62-7)
3,3'-dimetilbenzidine	(119-93-7)		

The manufacturer can demonstrate the compliance to this requirement a statement of non-use of the colourings listed or a statement of all suppliers of yarns and fibers used in the manufacture the product to be labeled. Under decision of ABNT, during the audit samples may be collected for testing.

6.2.2 Fibers – chemicals

- a) Polyester: The amount of antimony in the polyester fiber can't exceed 260 mg/kg (ppm). If not used antimony, the applicant may add the words "antimony free" (or equivalent text) close to the eco-label of the product.

The manufacturer shall provide a statement of non-use of the substances or a test report, using the following test method: direct determination by atomic absorption spectrometry. The test shall be performed on the raw fibers before any wet treatment. Under decision of ABNT, during the audit samples may be collected for testing.

- b) Polypropylene: Lead-based pigments or nickel-based additives shall not be used. The manufacturer shall provide a statement of non-use of pigments and additives of this type. Under decision of ABNT, during the audits samples may be collected for testing.

6.3 Criteria for the product

6.3.1 The emission rate of the product shall be tested on a small scale environmental chamber. In this test, the concentration of VOC in the air shall not exceed the limits specified in Table 1.



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Table 1

SUBSTANCE	µg/m³	SUBSTANCE	µg/m³
Formaldeide	16	Naftalene	4,5
Acetaldeide	4,5	Nonane	13
Caprolactame	100	Octanae	7,2
Acid 2-ethylhexanoic	25	Styrene	220
1-Methyl-2-pirrolidinone	160	Toluene	150

The test and calculation methods must be applied after a conditioning period of 10 days followed by 96 hours to test period. The test method and calculations shall follow the ASTM D5116-06.

6.3.2 Products must be free of halogens.

6.3.3 Flame retardants.

When used, only the flame retardants that are chemically bonded to the polymer fiber or to the fiber surface (reactive flame retardants) may be used in the product. If the flame retardants used are classified by one of the following hazard sentences, its chemical properties shall be modified, when applied, in order to cease being sortable by any of these hazard sentences, as set out in Directive 67/548/CEE (less than 0,1% of the flame retardant in the form prior to application can remain in the wire or treated tissue).

- R40 (possible carcinogenic effects - insufficient evidence);
- R45 (may cause cancer);
- R46 (may cause heritable genetic alterations);
- R49 (may cause cancer by inhalation);
- R50 (very toxic to aquatic organisms);
- R51 (toxic to aquatic organisms);
- R52 (harmful to aquatic organisms);
- R53 (may cause long-term adverse effects in the aquatic environment);
- R60 (may impair fertility);
- R61 (risk during pregnancy with adverse effects on descent);
- R62 (possible risk of impaired fertility);
- R63 (possible risks during pregnancy with adverse effects on descendants);
- R68 (possible irreversible effects).

The manufacturer shall submit a statement certifying that flame retardants were not used or refer which flame retardants were used and provide the documentation (such as Material Safety Data Sheets for chemical products) and/or statements indicating that the flame retardants are in accordance with this criteria.

6.3.4 If the manufacturer uses biocides, they shall be free of heavy metals, arsenic, tin, or polychlorinated phenols.



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6.4 Criteria for use

The manufacturer shall recommend to its customers to use water-based adhesive for the installation of the products.

6.5 Criteria for distribution

The manufacturer must implement a program to optimize the transportation logistics and product distribution. This program shall establish the reduction of the consumption of fossil fuels, with targets set and monitored periodically. The program, to the possible extent, shall consider the use of less polluting means of transport or with less environmental impacts (electric engine, hybrid vehicles, multi-combustibles vehicles, powered by ethanol, VNG, biodiesel, etc.), including the establishment of these goals.

The distribution programs shall ensure that vehicles are kept with their engines adjusted to reduce fuel consumption and emissions.

6.5.1 Own Transport

If the manufacturer has in its facilities fueling stations for its own fuel consumption, measures must have been taken for containment/prevention and emergency procedures for spills, fire and explosion.

6.5.2 Outsourced Transport

If the manufacturer uses third-party transportation companies, they have to be qualified based on criteria that include environmental aspects that consider at least the following: emission control, regular maintenance program, legal documentation for the transportation of chemicals (if needed), environmental license, certificate of regularity, periodic training to employees and compliance with CONTRAN (ANTT).

6.6 Environmental criteria applicable to the process

6.6.1 The manufacturer shall establish a program for optimizing the consumption of energy and water including reduction targets when appropriate. The program shall consider the reuse of water used in cooling systems, steam generation, as well as cleaning and sanitizing of machines, equipment, pipelines and transfer hoses, among others, when possible;

6.6.2 The manufacturer shall establish a waste management program that considers reduction, reuse or recycling, ensuring its optimization and proper disposal of waste generated, including recyclables. All waste should be classified according to ABNT NBR 10004. If the process has hazardous by-products as one of its results, they must be segregated and appropriate measures should be taken for recycling/reuse (if applicable) or disposal;

6.6.3 If the manufacturer uses to store products which are hazardous or harmful to the environment, the rules and laws applicable to health, safety and environment must be followed. The FISPQ (Information Sheet for Chemical Products) must be near any of the chemical eventually stored.

7 Compliance to legal requirements

7.1 Compliance to environmental requirements

The manufacturer shall comply (or exceed) the applicable environmental legislation and regulation, on federal, state and municipal levels, considering, but not limited to, aspects related to the emissions, effluents and waste. Whenever a manufacturer operates in a foreign jurisdiction, the Environmental regulations of that jurisdiction apply.



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7.2 Compliance to labor, anti-discriminatory and safety regulations.

The manufacturer shall demonstrate that all employees are covered by a labor situation in accordance to Brazilian law, either by CLT or other type of employment contract legally accepted. It must be demonstrated Compliance to federal, state or municipal terms on the Occupational Safety and health of the worker. Whenever a manufacturer operates in a foreign jurisdiction, the regulations on non-discrimination, occupational health and safety and labor laws of that jurisdiction apply.

Under the decision of ABNT, the compliance to this requirement may be evidenced by a statement signed by the Company's Senior Executive.

8 Using test laboratories

8.1 ABNT is responsible for selecting the laboratory to perform the tests which will be used in the process of concession and maintenance of ABNT's Environmental Quality Mark – ABNT Ecolabel.

8.2 When using laboratories accredited by Inmetro or accredited by Accreditation Bodies from other Countries with which Inmetro has mutual recognition agreement, the laboratories need not to be evaluated.

8.3 When non accredited laboratories are used, they shall be evaluated in accordance to item 7.5 of PG-11.0A - General Procedure for ABNT Environmental Quality Label.

8.4 In case of using a first part laboratory (laboratory owned by a manufacturer), ABNT shall accompany the execution of all tests for concession and maintenance of certification, regardless the laboratory is accredited or not.

9 Description of certification process

9.1 Documentation

The manufacturer shall forward the documents listed below to ABNT for a document analysis:

- a) Detailed specification of each product to be certified;
- b) Copy of the Company' social contract registered under Commercial Official Department;
- c) Floor plan of the site;
- d) Update geographic location (specifying the area surrounding the site - rivers, conservation areas, communities, industries, among others);
- e) List of main raw materials used in the production process;
- f) List of key inputs that are necessary for the completion of the production process;
- g) Environmental Licenses;
- h) Schematic flowchart of the production process, from the entry of raw materials to the output of finished product;
- i) Internal flow of water, energy, waste, effluents and emissions, regarding the manufacture of the product object of the concession.

9.2 Preliminary analysis

The documentation will be analyzed by ABNT to verify its adequacy and content, resolving any eventual outstanding together with the manufacturer.



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9.3 Pre-audit (optional)

After approval of the documents presented, ABNT will carry out a pre-audit at the manufacturer's facilities, with the following objectives:

- a) Evaluate the manufacturer's location and the specific conditions of the local;
- b) Verify the manufacturer's preparation level for the certification audit;
- c) Evaluate the manufacturer's understanding considering the criteria that must be complied with in order to obtain the certification;
- d) Collect necessary information related to the processes and manufacturer's location, legal and regulatory aspects;
- e) Evaluate the allocation of resources for the certification audit, as well as facilitate the certification audit planning.

9.4 Certification Audit

Once all irregularities and outstanding issues have been eliminated from the documents and having found solutions for any comments made during the pre-audit, the certification audit will take place and shall encompass the following aspects:

9.4.1 Evaluation of Products

ABNT will evaluate at the manufacturers facilities if the products to be certified are being manufactured in accordance with the projects/specifications that have been presented, along with the manner in which the manufacturer controls the production process in order to ensure compliance to the requirements.

9.4.2 Evaluation of the compliance to performance criteria and legal requirements

ABNT will verify if the manufacturer's products and/or processes of the manufacturer, which are the object of certification, are in compliance to the requirements established on items 6 and 7 of this procedure, through documents, interviews, production process accompaniment, records, etc.

For the criteria that cannot be evaluated during the audit, for example those that require laboratory tests for evidence, the manufacturer must demonstrate how it manages its production process as well as its relationship with suppliers, distributors and/or customers, in order to comply to the criteria. For these cases, under decision of ABNT, during the audits samples may be collected for testing in laboratories selected in accordance with item 8 of this procedure.

9.4.3 Sample collection and testing.

The samples collected by ABNT for testing shall be composed of proof, counter-proof and witness. The samples will be sealed by ABNT. The identification of the seals will be recorded in the sample collection form. The test samples shall be sent to the laboratory designated by ABNT, accompanied by a copy of the sample collection form. Samples of counter-proof and witness shall be kept by the manufacturer for the purpose of possible contest. The manufacturer must take the necessary precautions to preserve the seals of the samples sent to the laboratory as well as those stored for possible contests.

The tests shall be performed for each production unit.



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9.5 Initial Quality Evaluation

In order ABNT Environmental Quality Mark concession can be approved, the samples tested shall succeed in the tests referred to in item 6 of this procedure, as well as the evaluation of the requirements in paragraphs 6 and 7 must demonstrate compliance throughout the process.

In the event of failure in any of the tests performed during this phase, the product certification will not be awarded until the resolution of the problem.

After the implementation of corrective actions, ABNT shall schedule another Sample collection and new tests. In this case, the number of samples shall be twice the initial sampling. If the test samples are approved, then the certification will be awarded for the product.

9.6 Certification concession

When all the previous steps have been completed, CT issues a conclusive opinion and forward the process to GSI analysis. In case of approval by GSI, ABNT will issue the ABNT Environmental Mark Certificate, which is the license for use of the label on the product (Ecolabel).

In case of failure, the reasons will be communicated to the manufacturer so that the necessary corrective actions are taken and the product can return to the certification process. The corrective actions as well as the actions taken to return to the certification process shall be agreed with ABNT.

10 Description of certification maintenance process

After the concession of the Certification, ABNT shall carry out control activities in order to verify the manufacturer's maintenance of the technical/organizational conditions which gave origin to the certification. This verification will be completed through maintenance audits and may also, under decision of ABNT, require sample collection for testing.

10.1 Maintenance audits

The maintenance audits will be held in periods previously agreed to by the manufacturer and the periodicity will be annual. In these audits the following aspects will be considered:

10.1.1 Evaluation of Products

ABNT will evaluate in the manufacturer facilities if the certified products continue being produced according to the specifications provided.

10.1.2 Evaluation of the compliance to the performance criteria and legal requirements

ABNT will verify if the manufacturer's certified product and/or processes continue to comply to the requirements established in items 6 and 7 of this procedure. The requirements which cannot be evaluated during the audit, for example those which need to be tested in a laboratory to demonstrate compliance, the reformer shall demonstrate the way in which the production process is controlled, as well as its relationship with suppliers, distributors and customers, in order to comply to these requirements.

10.1.3 Sample Collection and Testing

Tests will be conducted on an annual basis, in samples collected at the factory. The tests shall be performed for each production unit. In the collections of the market, the manufacturer (or his representative) should be informed by ABNT and must accompany the collection process.



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The samples collected by ABNT for testing shall be composed of proof, counter-proof and witness. The samples will be sealed by ABNT. The identification of the seals will be recorded in the sample collection form. The test samples shall be sent to the laboratory designated by ABNT, accompanied by a copy of the sample collection form. Samples of counter-proof and witness shall be kept by the manufacturer for the purpose of possible contest. The manufacturer must take the necessary precautions to preserve the seals of the samples sent to the laboratory as well as those stored for possible contests.

The test results will be sent to the manufacturer by ABNT. In the event of non-compliance in the tests (non-fulfillment of a requirement), the manufacturer must submit an action plan within 15 days for evaluation of ABNT.

10.2 Conformity Evaluation

For the certification maintenance, the tested samples shall succeed the tests related to in item 6 of this procedure, as well as the evaluation of the requirements established in items 6 and 7 shall demonstrate conformity throughout the entire process.

In case of failure in any tested product during this phase, the certification of the non conforming product will be suspended until the problem is resolved.

After the implementation of the corrective actions, ABNT shall schedule a new audit and sample collection for testing. In case the manufacturer do not present any non-conformity and the tested samples succeed, the manufacturer will be allowed to use again the ABNT Conformity Mark on the product.

After this audit the test sampling for this product will happen in a biannual basis until its conditions have reached the conformity originally demonstrated, when then the sampling period will return to be annual.

10.3 Self-monitoring

During the audit, the manufacturer must demonstrate to ABNT how its production process is controled in order to maintain the product complying to the criteria established in this procedure. This systematic will be subject to the approval of ABNT and can be considered as a non-conformity, if not approved.

10.4 Recognition Agreements

As set out in paragraph 15 of PG-11, the process of maintenance of certification can be changed based on the content of any agreements for cooperation or mutual recognition.

11 Criteria modifications

If after the concession of ABNT Environmental Quality Mark, or during the process of concession, changes occur in the established criteria for the certification of the product, ABNT will concede a period of time during which the certified manufacturers will be allowed to adequate the products to the modified requirements.