



Agrément South Africa Eco-labelling System
for Building Materials & Products

innovative construction product assessments



ecoASA Standard for Carpets

Final

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Background

The National Department of Public Works, through the Green Building Policy, undertook to initiate the development of an eco-labelling system, whereby materials and products related to the construction industry will be rated in terms of their environmental impact. Furthermore, the Green Building Policy recommends that existing local or international eco-labelling systems be adopted and, where necessary, adapted for application in South Africa.

The objective of eco-labelling is providing accurate and honest information on environmental aspects of products in order to encourage demand and supply of products that are less stressful on the environment (SANS 14020, 2003).

Agrement SA, a Schedule 3A entity established under the Agrément South Africa Act 11 of 2015, is mandated to assure non-standardised construction products are fit for purpose as an impartial and internationally acknowledged South Africa centre for assessment and certification (Government Gazette, 15 Dec. 2015). Agrément SA was selected as the competent body to establish the eco-labelling system, which has become known as *ecoASA*. The *ecoASA* shall conform with SANS/ISO140A task team, established by the DPW, assessed existing eco-labelling systems to determine whether any are suitable for adoption and application in South Africa. The Good Environmental Choice Australia (GECA) eco-labelling system was identified as most likely to be suitable for adaption.

The criteria in this standard are for the most part adopted with permission from the GECA standard and adapted to suit the South African context.

Introduction to ecoASA Standards

This standard identifies environmental, quality, regulatory and social criteria that products sold in the South African marketplace can meet in order to be promoted as environmentally preferable. This eco-labelling standard is a government initiated eco-labelling system operated by Agrément South and is to be known as the Agrément South Africa Ecolabel (or **ecoASA**). Agrément South Africa is a state-owned public entity which undertakes technical assessments of innovative construction products and building systems.

According to ISO 14020, an environmental label or an environmental declaration is a “claim which indicates the environmental aspects of a product or service.” This may be in the form of a statement, symbol or graphic on a product or package label, literature and advertising. The goal of such labelling or declarations is to encourage the demand for products or services that cause less stress to the environment, stimulating market-driven environmental improvement. Standards ensure that claims made are accurate and not misleading.

Three types of environmental labels are recognised, namely, Type I (SANS/ISO 14024, which are based on a voluntary third party programme to assess a products environmental preferability), Type II (SANS/ISO 14021, which are self-declared environmental claims) and Type III (SANS/ISO 14025, which present quantified environmental information of the product life cycle). This standard is for a Type I environmental label, although reference is made to Type II and Type III claims.

This standard is aligned with the guiding principles for environmental labels and declarations found in ISO 14020:200 (SANS 14020:2003) and ISO 14024:1999 (SANS 14024:1999). Accordingly, this standard strives to provide accurate information regarding the environmental aspects of the product with a verifiable factual and technical base.

Compliance with this standard by a product manufacturer is voluntary. The purpose of environmental labels is to encourage the demand for and supply of products that cause less stress on the environment, through the communication of verifiable and accurate information that is not misleading.

This standard may be used by *ecoASA*-approved environmental auditors to verify whether a product conforms to the criteria set by this standard. After a product is certified it may display the *ecoASA* eco-label to show that the product has been independently audited and demonstrates conformance with the environmental and social criteria detailed in this standard.

The principles of Life-Cycle Analysis have been used to set these criteria to address relevant environmental loads typical in the product category. As such, this standard may also offer guidance for South African producers to reduce the environmentally harmful impacts of their product(s). Producers may use the environmental criteria in this standard to design and refine the processing, manufacturing and delivery of their product(s). In addition producers may find other environmental issues and more measures along the product’s life cycle, which are beyond the content of this standard. Producers are encouraged to include improvements in their environment designs and programs to aim for even better environmental results where technically feasible. In such cases, *ecoASA* welcomes feedback to consider incorporating improvements during revisions of the standard.

While all *ecoASA* eco-labelling standards are voluntary, they nevertheless contain criteria that address compliance with specific laws and South African National Standards. A prerequisite for certification under the *ecoASA* eco-label is to satisfy the relevant South African or international standards. South African National Standards typically define “fit-for-purpose” criteria and usually do not provide assurance of environmental impact, thus *ecoASA* eco-labelling standards go beyond South African National Standards and define an environmental benchmark for the type of product.

Beyond purely environmental goals, the *ecoASA* standard strives to promote overall sustainable development as defined by the United Nations, meeting the needs of the present without compromising future generations and building resilience and sustainability for both people and the planet¹.

¹ <https://www.un.org/sustainabledevelopment/development-agenda/>

Application and evaluation

Manufacturers wanting to have a particular product evaluated for an eco-label are to apply through Agrément SA.

This standard is to be readily available for any potential applicant prior to making a formal application for an *ecoASA* label.

The product is to be evaluated by an independent assessor.

The product is evaluated against the set of criteria contained in this standard. Conformance with each relevant criterion is verified by the independent assessor with the aid of supporting documentation. Supporting documentation that is required to demonstrate conformance is described for each criterion.

On site verification may also be required in addition to documentation to verify conformance. The applicant shall allow the independent assessor access (upon arrangement) to the site for this purpose.

The environmental evaluation criteria have been developed based on the whole life-cycle of the product, from cradle to cradle. The criteria are established based on research and international best practice. Environmental indicators relating to each life cycle stage are considered. Environmental indicators are designed to ensure that minimal harm comes to the environment or humans and includes the restriction of harmful or toxic substances, the restriction of emissions into the environment (including greenhouse gasses, other gaseous emissions, water emissions and solid waste), the efficient use of materials, water and energy.

Energy consumption is connected to greenhouse gas emissions and the carbon footprint of the product. This is taken into account when a full life cycle assessment (LCA) is performed. A full LCA is an excellent indicator of the environmental impact of a product but is onerous and costly to perform. A full LCA is therefore not necessary for obtaining an *ecoASA* label, although it will enable the product to achieve a higher rating.

In addition to environmental criteria, a number of criteria have also been developed to ensure that the broader influence of the product or manufacturer is positive. Thus, aspects relating to social responsibility, employment, innovation and legal standing are included.

Once the independent assessor has evaluated the product's level of compliance, an *ecoASA* label will be awarded according to the scoring system. This will be valid for a period of three years, after which the manufacturer will need to apply for renewal of the label. Any changes to the process or composition of the product will affect the validity of the label.

This standard will be reviewed every three years and the criteria contained within this standard may be changed as new regulations, restrictions or technologies emerge. Changes to this standard will not affect the status of current labels but will come into effect upon renewal of labels.

Upon renewal, the manufacturer will need to provide supporting documentation demonstrating that the original criteria are still met and that any new criteria are met.

About this document

This standard comprises two Parts. Part 1 contains criteria that are common to all product categories; Part 2 contains criteria that are applicable specifically to the product category of this standard, which is carpets.

Part 1 contains the following sections:

- 1A) Legal compliance
- 1B) Social and community responsibility
- 1C) Environmental compliance

Part 2 contains the following sections:

- 2A) Fit for purpose
- 2B) Raw materials
- 2C) Manufacture
- 2D) Packaging and Distribution
- 2E) Use
- 2F) Disposal and reuse

Section 1A, Legal requirements, sets out criteria relating to legal and social requirements. Some of the legal criteria are conditional (i.e. a product will not be considered if the manufacturer is not complying with all relevant laws). The purpose of this section is to ensure that an eco-label is not awarded to a product of a manufacturer that is not legally or socially responsible. It includes matters relating to occupational health and safety, labour, procurement and community.

Section 1B, Social and community requirements, considers to non-legal issues such as employee benefits, community benefits, etc. offered by the manufacturer. These are not conditional but encourage the manufacturer to be socially responsible and enhance the health and sustainability of the local community in which it functions.

Section 1C, , Environmental compliance, sets out general environmental criteria. This includes criteria relating to water management, energy management, air emissions, waste management, environmental claims, environmental legal compliance, etc. across the full life cycle scope of the product, including an environmental product declaration option, based on a full life cycle assessment.

Many of the criteria in Part 1 are conditional, meaning that non-compliance disqualifies a product from achieving an *ecoASA* ecolable.

Section 2A, Fit for Purpose, sets out criteria that are intended to establish whether the product is suitable/eligible to apply for the eco-label (i.e. if the product cannot be classified as an architectural paint or coating by certain standards, it is not eligible). This includes the scope of products (including components) and the standards for quality and durability. Most, if not all, of these criteria are conditional, meaning that if the product is not fit for purpose it cannot apply for the eco-label.

Sections 2B to 2F consider the life cycle stages of the product relative to the following indicators of environmental or human health and well-being:

-
- 1) Material content and efficiency
 - 2) Hazardous materials
 - 3) Water consumption and efficiency
 - 4) Energy consumption and efficiency
 - 5) Water emissions
 - 6) Air emissions
 - 7) Waste minimisation

At the beginning of the document there are guidelines for applying for the eco-label. The eco-label is awarded based on points allocated for each criterion, with a sub-total for each section. These sub-totals may be weighted in the calculation of the total score. This is explained in greater detail in the section on application and evaluation and the scoring system.

Each criterion listed in the standard requires evidence to demonstrate conformance. Additional guidance regarding the evidence is provided in the Technical Manual. The requirements for demonstrating conformance are tabulated next to each criterion with the score allocation below and the maximum possible score indicated in the right hand column for each criterion.

Scoring system

The *EcoASA* label is awarded based on a scoring system.

There are a number of criteria to be met in the following categories (which appear as sections in the document):

- 1A) Legal compliance
- 1B) Social and community responsibility
- 1C) Environmental compliance
- 2A) Fit for purpose
- 2B) Raw materials
- 2C) Manufacture
- 2D) Packaging and Distribution
- 2E) Use
- 2F) Disposal and reuse

Satisfying a certain number of criteria will entitle the product to be awarded an *ecoASA* label. To differentiate between products that excel in meeting the criteria and those that meet the minimum criteria, a scoring system is employed whereby an eco-rating is attached to the *ecoASA* label. This rating is on a scale of A to C, similar to the South African Energy Efficiency Label.

On the top end of the scale, a rating of A+ can be awarded for products that perform well on every criteria. This includes providing an environmental product declaration (EPD), based on a full life cycle assessment (LCA), however, it must be noted that an EPD is not a prerequisite for achieving the *ecoASA* label.

The product rating may be displayed on the product alongside the *ecoASA* label, in a similar fashion as the South African Energy Efficiency Label², as illustrated below.

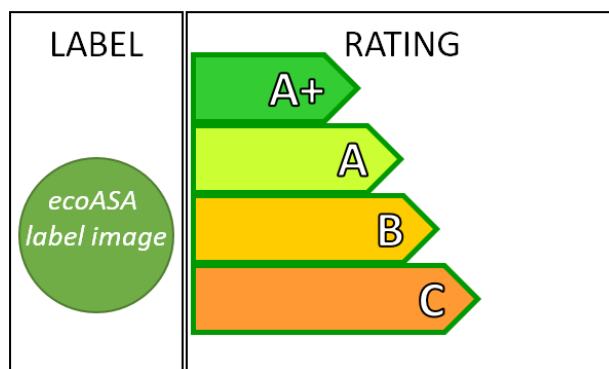


Figure 1: Suggested appearance of the *ecoASA* eco-label and rating.

A scoring system allows for inclusivity and flexibility, enabling a product to achieve an environmental label, and demonstrating a commitment to environmental responsibility, by meeting a minimum

² <https://www.savingenergy.org.za/asl/south-african-energy-efficiency-label/>

level of compliance, despite a lack of compliance in certain areas. This allows smaller manufacturers, who may not have the means to achieve certain criteria, to still achieve an eco-label and compete in a market with a preference for products with an eco-label, while manufacturers who operate with high levels of environmental and social responsibility are recognised.

The score for each criteria is either based on a three-point scale or a binary score.

The three-point scale is as follows:

Points	Level of compliance
0	Non-compliance with minimum requirements
1	Partial compliance (defined according to technical details)
2	Full compliance (defined according to technical details)

Certain criteria are binary (yes or no). In these cases, a two-point scale is applied as follows:

Points	Level of compliance
0	Non-compliance with minimum requirements (or only compliant with some of the criteria when full compliance is required)
1	Compliant (on all aspects of the criterion)

The total score is calculated as a percentage out of the maximum number of possible points available. Certain criteria may not be applicable for every product application (for example, criteria that only relate to natural fibre carpets and are not applicable to synthetic fibre carpets). The points that could be scored for such criteria are to be discounted from the available total.

A sub-total is calculated for each category of criteria. This allows the manufacturer as well as the consumer to see in which categories the product performs well or poorly, giving the eco-label transparency.

Category	Score
Basic Standards	%
Fit for Purpose	%
Resource Extraction	%
Production	%
Packaging & Distribution	%
Use	%
Disposal & Reuse	%
TOTAL SCORE	%
Overall Rating	A+ / A / B / C

The overall rating is to be interpreted as follows:

Rating	Total Score
A+	95% - 100%
A	80% - 94%
B	65% - 79%
C	50% - 64%

A minimum of 40% (of the overall score) must be achieved for Part 1 in order for a product to proceed to Part 2 compliance. A product with a total score lower than 50% (for Part 1 and Part 2 together) will not be eligible for an *ecoASA* label.

Certain criteria are **conditional**. These criteria do not contribute to the score. Non-compliance with these criteria disqualify the product from achieving an *ecoASA* label. These criteria usually relate to aspects of product scope, fitness for purpose, or legal compliance.

Normative references

SANS 14020:2003 / ISO 14020:2000

SANS 14024:1999 / ISO 14024:1999

SANS 2424:2012 / ISO 2424:2007

SANS 14044

SANS 14025

Definitions and Accronyms

Acronyms

ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstract Service
COD	Chemical Oxygen Demand
CSIR	Council for Scientific and Industrial Research
DPW	Department of Public Works
ecoASA	Agrément South Africa Ecolabel
EU	European Union
GBCSA	Green Building Council of South Africa
GECA	Good Environmental Choice Australia
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
IARC	International Agency for Research on Cancer
ISO	International Organisation for Standardisation.
LCA	Life Cycle Assessment
OECD	Organisation for Economic Co-operation and Development
SABS	South African Bureau of Standards
SANS	South African National Standard
SDS	Safety Data Sheet
TOC	Total Organic Carbon
TVOC	Total volatile organic compounds
VOC	Volatile Organic Compound

Definitions

After-Chroming Techniques	A dyeing process by which wool is dyed with chrome or chromium containing dyes and the exhausted dye baths are possible sources of residual chromium in effluents discharged to the aquatic environment.
Applicant/Producer/Manufacturer	A supplier of products or services seeking Certification for its goods or services.
Bioaccumulative Agents	Substances that persist within the tissues of organisms because the rate of intake exceeds an organism's ability to remove the substance
Biochemical Oxygen Demand	The mass of dissolved oxygen which is required for the biochemical degradation of organic material and for the oxidation of inorganic material in a unit volume of water sample when the sample is incubated under specified conditions for a period of five days
Carcinogenic	Substances capable of causing cancer. The International Agency for Research on Cancer (IARC) is the internationally accepted body for the classification of carcinogenic substances, dosage, exposure rates and pathways need to be taken into account.
Chemical Abstract Service	Unique chemical identifiers assigned to chemical compounds as a means of identification.
Chemical of concerns	(Carcinogenic, Mutagenic and Reproductive substances), endocrine disruptors and other substances of equivalent concern.
Conformity Assessment Body	A SANAS accredited organisation independent of Agrément South Africa that provides auditing and verification services resulting in a Certificate of Conformance being issued for products or services found to meet the requirements of an <i>ecoASA</i> Specification.
Contaminants	Constituents in a chemical or mixture that have not been intentionally added as ingredients, and typically found at trace levels
Dematerialisation	The reduction of material inputs to increase efficiency of resource use.
Demonstration of Conformance	Defines sources of evidence acceptable to <i>ecoASA</i> , to demonstrate compliance with each criterion of the standard. An applicant manufacturer must provide documentation to the <i>ecoASA</i> appointed assessor in order to demonstrate conformance of its products under assessment

ecoASA appointed assessor	Person appointed by Agrément SA to oversee and evaluate the documentation submitted and oversee the inspection of the manufacturing facility (him/herself or appoint suitable other).
ecoASA Label	The trademarked, official logo used to denote Agrément South Africa products certified products in terms of a Specification. Referred to as the 'ecoASA Label'.
Embodied energy	Energy consumed throughout the paint's life cycle.
Embodied greenhouse gas emissions	A measure of the carbon footprint of a product. It considers the greenhouse gases (GHGs) released throughout the supply chain and is often measured from cradle to (factory) gate, or cradle to site (of use).
Endocrine disruptors	Chemicals associated with altered reproductive function in males and females; increased incidence of breast cancer, abnormal growth patterns and neurodevelopmental delays in children, as well as changes in immune function.
Environmental loads	The distress imposed to the environment due to the manufacturing process of a product.
Finished product	A product ready for use and distribution to the end user.
Fit for purpose	Sets of criteria that intended to establish whether the product is suitable/eligible to apply for the eco-label.
Halogenated substances	A volatile compound containing halogens such as chlorine, fluorine or bromine.
Heavy metals	Any metallic chemical element that has a relatively high density and is toxic or poisonous at low concentrations including; mercury (Hg), cadmium (Cd), arsenic (As), chromium (Cr), thallium (Tl), and lead (Pb).
Independent assessor	A competent person that is not a representative of the manufacturer and has no vested interest in the product being evaluated.
Licence	The Licence allows the Licence Holder to display the <i>ecoASA</i> Label.
Licence holder	A supplier of products or services that has successfully applied for and been awarded a Licence for the use of the <i>ecoASA</i> Label.
Life cycle Assessment (LCA)	Analysis for reporting potential environmental loads and resources consumed in each step of a product or service supply chain.

or

	A tool to assess the environmental impacts of a product, process or activity throughout its life cycle; from the extraction of raw materials through to processing, transport, use and disposal.
Local by-laws	Laws passed by a council of a municipality to regulate affairs and services the municipality provides in its area of jurisdiction.
Product	The product (carpet) that is under review for <i>ecoASA</i> certification.
Rapidly Renewable	A resource capable of being replaced in less than 10 years time (harvest maturity) by natural ecological cycles
Raw material	Material used in the manufacture of carpet.
Readily Biodegradable	Surfactants whose average level of biodegradation, as observed in an aerobic sewage treatment plant, is at least 90% during a residence time of not more than 3 hours. The surfactant is determined to be readily biodegradable by any of the following test methods: • ISO 7827 (1994): Water Quality - Method by analysis of dissolved organic carbon • AS 4351 (part 2 – 1996): Biodegradability – Organic Compounds in an Aqueous Medium – Determination by analysis of dissolved organic carbon • OECD Guidelines for Testing of Chemicals - Test Guidelines 301A-301E. Inherent experimental variability of the OECD method is recognised and as such a biodegradability of at least 80% is allowed when using this test method.
Receiving environment	Environment upon which a proposed activity might have harmful effects. May either be: groundwater, surface water, land, etc. <u>Or</u> The immediate ecosystem or habitat, including human and animal, which is likely to come in contact with the released discharge. This may include sediment and water bodies downstream of a facility's point of distance.
Recycled content	Recycled content includes: Pre-Consumer Material: Post-industrial material diverted from the waste stream during a manufacturing process. Excluded is re-utilization of materials such as rework, regrind,

	broke or scrap generated in a process and capable of being reclaimed within the same process that generated it. Post-Consumer Material: Material generated and discarded by households, commercial, industrial and institutional facilities in their role as end-users. That is, products which can no longer be used for its intended purpose. This includes returns of material from the distribution chain.
Safety Data Sheet	Includes information such as the properties of each ingredient used in manufacturing the product. These may include the physical, health, and environmental health hazards; protective measures; and safety precautions for handling, storing, and transporting the ingredient. ¹
Supplier	Person/organisation providing raw materials required for all components of the product (including packaging).
Teratogens	Any agent that can disturb the development of an embryo or fetus and cause birth defects.
Total Organic Carbon (TOC)	A measure of the concentration of organic carbon in water, as determined by oxidation of the organic matter into carbon dioxide (CO ₂).
Volatile Organic Compound (VOC)	Any organic compound (compound which contains carbon) with either a boiling point below 250°C measured at 101.3kPa or a vapour pressure of more than 0.1mm Hg measured at 21°C.

Product scope

This eco-labelling standard is applicable to products that are **textile floor coverings** (referred to in this standard simply as carpets) in the South African market.

According to SANS 2424:2012 / ISO 2424:2007, a textile floor covering (carpet) is a system having a use-surface composed of textile material and generally used for covering floors.

This standard is relevant for the entire carpet system, which includes the pile, supporting fabric, backing, adhesive and other integral components and is applicable for broadloom and modular carpets.

Carpets are defined according to their method of construction, such as weaving and bonding techniques. Carpets are also categorised in terms of the type of fibres used in the carpets – broadly synthetic or natural fibres. This standard cover both synthetic fibre and natural fibre-based carpets.

Synthetic carpets have a use surface made from synthetic carpet fibres that are made from nylon, polypropylene olefin, polyester or acrylic. Some of the properties of these carpets are provided in Appendix B. A key environmental disadvantage of synthetic carpets is the release of volatile organic compounds (VOCs), which are harmful to human health.

Natural fibre carpets considered in this standard include wool and wool blend carpets, which have some environmental advantages but are more costly and rely on some harmful chemical processes for production and dying.

Carpet is sold as a system which includes the following components: backing, cushion/underlay carpet and adhesive. These components are to be included in the definition or scope of carpets when evaluating the product for an eco-label. This follows the precedent of other eco-label schemes (e.g. EU Ecolabel), which include backing material, flame retardants, plasticizers and dyes.

1. Backing: provide structural support to the face fibre. The primary and secondary backings can be made of polypropylene, polyester, polyvinyl chloride (PVC), polyurethane or jute
 - a. Primary backing - layer into which the yarns of the face fibres are bonded
 - b. Secondary backing - fabric laminated to the back of the carpet to add additional strength and dimensional stability to the carpet
2. Underlay: Cushion, resilient layer of textile and/or other material placed between the textile floor covering and the floor. It is a sheet of foam rubber or spongy material.
3. Adhesive: or glue, is a mixture, either in liquid or semi-liquid form that is used to bond one surface to another, i.e. carpet underlay to the sub-floor or to the actual carpet.
4. Flame retardants: chemicals added to materials to slow or prevent the start or growth of fire.
5. Plasticizers: A substance to promote or produce plasticity and flexibility to help reduce brittleness.
6. Dyes: This is the application of pigments to textile materials including fibres, yarn to achieve a colour with desired colour fastness- the ability of the carpet to retain colour even after regular cleaning or against the light, it is its resistance to fading.

1 Basic Standards

The following set of criteria relate to general areas of concern for all product categories.

This part of the application for the *ecoASA* eco-label acts as a stage gate for the second part, Part 2, which is product specific. All conditional criteria in Part 1 must be met for a product to be eligible to apply for the *ecoASA* eco-label.

1.A Legal compliance

(only conditional requirements)

This section addresses compliance with relevant laws and regulations.

All of the criteria in this section are conditional and part of the eligibility criteria for a manufacturer.

<i>Criterion</i>	<i>Demonstration of Conformance</i>	<i>Score</i>
<i>Criterion 1. ILO Compliant Supply Chain</i>		<i>Y/N</i>
The manufacturer/applicant and Tier 1 suppliers are to be compliant with the International Labour Organization (ILO) conventions: • Freedom of Association and Protection of the right to Organise Convention (No. 87); • Right to Organise and Collective Bargaining (No. 98); • Forced Labour Convention (No. 29); • Abolition of Forced Labour Convention (No. 105); • Worst Forms of Child Labour Convention (No. 182); • Minimum Age (Convention 138); • Elimination of Discrimination in respect of employment and occupation (Conventions 100 and 111); • Occupational Safety and Health Convention (No. 155) and its accompanying Recommendation No 164; • Equal Remuneration Convention (No. 100). This is only applicable if the applicant is an international organisation, otherwise Criterion 2 applies.	Evidence required to demonstrate compliance is either: • Signed declaration by an Executive Officer of the manufacturer confirming compliance with all conventions mentioned, including a statement regarding the compliance of each Tier 1 supplier; - or • SA8000 certificate from manufacturer and Tier 1 suppliers.	

CONDITIONAL	A case of non-compliance with any of the mentioned conventions by the manufacturer or supplier will disqualify the product for eligibility for the ecoASA label.	
Criterion 2. Local Labour Legislation Compliance		Y/N
The manufacturer and Tier 1 suppliers must adhere to the South African labour laws: • Employment Equity Act No. 55 of 1998; • Labour Relations Act No.66 of 1995; • Basic Conditions of Employment Act No. 75 of 1997	Signed declaration by an Executive Officer of the manufacturer confirming compliance with relevant law accompanied by a record of employee demographics and supporting human resources (HR) policies.	
CONDITIONAL	Non-compliance will disqualify the product for eligibility for the ecoASA label.	
Criterion 3. Workplace safety		Y/N
The storage and use of chemicals, explosives and other hazardous substances must be in accordance with the Occupational Health and Safety Act No. 85 of 1993 and the Hazardous Substances Act No. 15 of 1973.	Evidence required to demonstrate compliance includes all of the following: • Signed declaration by an Executive Officer of the manufacturer or distributor confirming compliance with relevant laws. • Copies of storage handling requirements and procedures for control and remediation of chemical spills. This may be included in an environmental management system (EMS), whether ISO/SANS 14001 certified or not. • Copy of the company's Safety, Health, Environmental and Quality (SHEQ) policy, plan and records (including reportable incidents).	
CONDITIONAL	Non-compliance will disqualify the product for eligibility for the ecoASA label.	
Criterion 4. BEE Compliant		Y/N
The manufacturer must be BEE compliant as defined in terms of the Broad-based Black Economic Empowerment Act 53 of 2003 and have the following minimum rating: • Medium & Large company (M&L company) - level 8 or above; • Qualifying Small Enterprise (QSE) - level 8 or above;	Evidence required to demonstrate compliance includes Evidence of BEE certification or BEE status.	

Emerging Micro Enterprise (EME) - Automatically compliant.	
CONDITIONAL	<i>Non-compliance will disqualify the product for eligibility for the ecoASA label.</i>
Criterion 5. Lawful conduct	Y/N
The manufacturer must not have been convicted of any breach of criminal law, within the last 2 years.	- Affidavit stating such - or - Latest proof of MIE (Managed Integrity Evaluation) Background screening.
CONDITIONAL	<i>Non-compliance will disqualify the product for eligibility for the ecoASA label.</i>
Criterion 6. Environmental laws	Y/N
The manufacturer must comply with all relevant environmental legislation at the local authority, provincial and national levels. These may include: - Hazardous Substances Act No. 15 of 1989. - Mineral and Petroleum Resources Development Act No. 28 of 2002 (MPRDA). - National Environmental Management Act No. 107 of 1998 (NEMA). - National Environmental Management: Air Quality Act No. 39 of 2004 (NEM:AQA). - National Environmental Management: Biodiversity Act No. 10 of 2004 (NEM:BA). - National Environmental Management: Protected Areas Act No. 57 of 2003 (NEM:PAA). - National Environmental Management: Waste Act No. 59 of 2008 (NEM:WA). - National Water Act No. 36 of 1998 (NWA). - Environment Conservation Act No. 73, 1989.	- A signed affidavit stating that all relevant environmental legislation has been adhered to. - Environmental authorisation for relevant activity (if applicable). The appointed assessor may request an audit of compliance by an independent environmental consultant.
CONDITIONAL	

1.B Social and community responsibility

Maximum score: 7

The criteria in this section are intended to encourage socio-economic responsibility of manufacturers, recognising that sustainability involves social, economic and environmental aspects. Social responsibility and support of local community and national development is encouraged and the societal attributes of the manufacturer and the applicant company. Criteria for social aspects of the product are required under the international standard on ecolabelling (ISO/SANS 14024).

<i>Criterion</i>	<i>Demonstration of Conformance</i>	<i>Score</i>
Criterion 7. Local manufacturer		1
The manufacturing or assembly plant for the product is in South Africa.	Statement of the physical location of the plant from the Executive Officer of the manufacturer.	
Scoring: Compliance = 1 Non-compliance = 0		
Criterion 8. Social responsibility		1
The manufacturer is compliant with SA8000 or ISO 26000 or has a similar in-house policy and is committed to social sustainability.	Proof of SA8000 certification or ISO 2600 compliance to be submitted and/or a GRI social sustainability report or similar in-house policy and report demonstrating social responsibility to the satisfaction of the Conformity Assessment Body.	
Scoring: Compliance = 1 Non-compliance = 0		
Criterion 9. Community benefit		1
The manufacturer supports the local community through investment in a community or public benefit facility.	Evidence of such in a report provided by the manufacturer.	
Scoring: Compliance = 1 Non-compliance = 0		
Criterion 10. Human capital development and transformation		2
The manufacturer offers employees or their family or the local community learning opportunities (formal or informal) and/or	Evidence detailing the opportunities offered and the beneficiaries must be done in a form of a report.	

mentoring, particularly targeting historically disadvantaged females and youth.	
<i>Scoring:</i> <i>HCD opportunities, at least 50% of which target historically disadvantaged females and youth = 2</i> <i>HCD opportunities, less than 50% of which target historically disadvantaged females and youth = 2</i> <i>Non-compliance = 0</i>	
Criterion 11. Female ownership	1
At least 25% of the manufacturing company is owned by historically disadvantaged females.	Evidence of company ownership.
<i>Scoring:</i> Compliance = 1 Non-compliance = 0	
Criterion 12. Local labour	1
At least 50% of the labour force of the manufacturer is sourced from the local community (within a 50km radius).	A report from the manufacturer providing statistics regarding the locality of the employees.
<i>Scoring:</i> Compliance = 1 Non-compliance = 0	

1.C Environmental responsibility

Maximum score: 23

The criteria listed in this section apply across the life cycle scope of the product.

1C.1 Environmental compliance

Criterion	Demonstration of conformance	Score
Criterion 13. Environmental claims beyond scope		2
Any environmental claims beyond the scope of this Standard that have been applied to a product must comply with ISO/SANS 14021, and the applicant must be able to verify these claims to <i>ecoASA</i>. Any product making greenhouse gas related claims must comply with ISO/SANS 14064-3 "Specification with guidance for the validation and verification of greenhouse gas assertions" and be able to verify these claims to <i>ecoASA</i>. For any other environmental claims outside the scope of ISO/SANS 14021 or ISO/SANS 14064, a clear statement of the test method and the conditions under which the product was tested is required, along with a clear explanation of the relevance of the test method to the environmental claim. An environmental claim may be: a) that there is minimal, reduced or no environmental impact in a particular impact area or b) it may be that the impact is positive, resulting in an environmental benefit.	1. A statement of the claim made, clearly stating whether the claim is for minimal/reduced impact or environmental benefit. 2. A copy of any relevant advertising material currently in use as evidence of claims made by the manufacturer. 3. Independent and scientific evidence of such a claim must be provided: relevant documentation confirming the grounds of the claim and its compliance with this criterion, whether according to ISO/SANS 14021 and/or ISO/SANS 14064 or other test methods.	
Scoring: Environmental benefit = 2 Minimal environmental impact = 1 No claim or no evidence = 0		

Criterion 14. Environmental Declaration	Product	2
The manufacturer has an environmental product declaration (EPD) according to ISO 14025. Data of an EPD is to be determined in accordance with ISO 14040 and ISO 14044. For an initial certification, an EPD is submitted as a baseline. For a certificate renewal, an EPD is submitted demonstrating an improvement in performance in terms of reducing the environmental impact of the product over the full life cycle.	The manufacturer must provide the EPD report based on a programme in accordance with ISO/SANS 14025.	
Scoring: Improved performance = 2 Baseline performance = 1 No EPD = 0		
Criterion 15. Whole building synergy		1
The product has qualities that contribute to the improved performance of a building as a whole.	Rigorous evidence and applicable test reports demonstrating the claimed benefit.	
Scoring: Compliance = 1 Non-compliance = 0		

1C.2 Material content

Criterion	Demonstration of conformance	Score
Criterion 16. Local sourcing of raw materials		2
Raw materials that are used in the product are manufactured and produced in South Africa. Local sourcing of raw materials refers to the use of materials that are not imported. In addition to encouraging the development and sustainability of South African businesses and industries, local sourcing reduces the environmental impact of transport emissions. <u>Notes:</u>	List of suppliers of all raw materials required for all components of the product as sold and their physical location.	

The scope of local sourcing is limited to the main substance of a raw material accounting to a minimum of 80% by volume of the raw material.	
Scoring: 60 – 100% by weight per product unit is constituted by locally sourced raw materials = 2 30% - 59% by weight per product unit is constituted by locally sourced raw materials = 1 0% - 29% by weight per product unit is constituted by locally sourced raw materials = 0	

1C.3 Hazardous substances

Criterion	Demonstration of conformance	Score
Criterion 17. Hazardous substances prohibited		Y/N
Ingredients used in the product and the product itself as sold must not contain substances classified by the IARC in Groups 1³ or 2A or substances carrying a GHS Hazard statement (SANS 10234), unless specifically allowed in limited amounts in Part 2 of this standard. This includes tints, colourants, dyes or other applied substances to any product. Exemptions for a specific substance may be permitted only where the applicant can demonstrate that the substance: • is necessary for performance or safety reasons; and • is stored and managed in a manner that prevents environmental pollution during manufacture; and • the substance does not pose a health risk to the end user or manufacturing staff. The applicant must demonstrate that exposure to the substance is below No	• Full ingredients list and SDS of each ingredient. This is to include components of ingredients that are sourced from suppliers, where applicable. Where an exemption is claimed: • A signed declaration from the manufacturer stating that the substance is chemically bound in the finished product, the purpose for which the given substance is necessary; and evidence that human exposure and environmental contamination are prevented. • Provide ISO/SANS 14001 EMS for claim on exemption for potentially explosive chemicals.	

³ Ethanol is classed by IARC as a Group 1 carcinogen only in the context of alcoholic beverages. This ruling is not considered relevant to the product category covered by this standard. Therefore, ethanol as used in paints and coatings will not be considered carcinogenic based on the IARC classification. This exception will not be extended to other chemicals.

Observable Adverse Effect Level (NOAEL) or is zero if NOAEL is unknown; and the substance cannot enter the environment during the manufacturing process, as a result of use, or as a result of disposal by landfill or incineration.	
CONDITIONAL	Non-compliance will disqualify the product for eligibility for the <i>ecoASA</i> label.

1C.4 Water efficiency

<i>Criterion</i>	<i>Demonstration of conformance</i>	<i>Score</i>
Criterion 18. Water management		2
The manufacturer has an accredited Water Management Plan (which may be part of a full SANS/ISO 14001 Environmental Management System or in-house management approved Water Management Plan) in place. The Water Management System or Plan includes a requirement for Tier 1 suppliers (including packaging suppliers) to have similar water management policies in place, ensuring water efficiency in the supply chain.	Company approved Water Management System or Plan or EMS according to ISO/SANS 14001 that includes the water management plans of Tier 1 suppliers.	
Scoring: Manufacturer is Compliant = 1 Tier 1 suppliers are compliant = 0 – 1 Non-compliance = 0	A weighted average of the supplier's compliance by volume of raw materials used per product will be applied.	
Criterion 19. Water efficiency		1
The manufacturer is committed to reducing water consumption associated with the manufacture of the product. This can be evidenced through continuous research and monitoring of consumption.	A research report with clear conclusions, recommendations and commitments to improve water efficiency.	
Scoring: Compliance = 1 Non-compliance = 0		

1C.5 Energy efficiency

<i>Criterion</i>	<i>Demonstration of conformance</i>	<i>Score</i>
Criterion 20. Energy consumption		2
The manufacturer has an accredited Energy Management System in place or an in-house management approved Energy Management Plan in place within the organisation. The Energy Management System or Plan includes a requirement for Tier 1 suppliers (including packaging suppliers) to have similar energy management policies in place, ensuring energy efficiency in the supply chain.	Company approved Energy Management System or Plans that includes the energy management plans of Tier 1 suppliers.	
Scoring: Manufacturer is Compliant = 1 Tier 1 suppliers are compliant = 0 – 1 Non-compliance = 0	A weighted average of the supplier's compliance by volume of raw materials used per product will be applied.	
Criterion 21. Renewable energy manufacturer		2
The manufacturer makes use of renewable energy sources in product manufacture.	A report from the manufacturer providing a break-down of the energy sources used and ratio of renewable and non-renewable energy used in the processing of the product.	
Scoring: > 30% renewable energy = 2 5% - 30% renewable energy = 1 < 5% renewable energy = 0		
Criterion 22. Renewable energy – supply chain		2
The manufacturer obtains raw materials from suppliers that make use of renewable energy.	A breakdown of the percentage renewable energy used in the production of raw materials.	
Scoring: > 30% renewable energy = 2 5% - 30% renewable energy = 1 < 5% renewable energy = 0	A weighted average of the renewable energy score by volume of raw materials used per product will be applied.	

1C.6 Waste minimisation

<i>Criterion</i>	<i>Demonstration of conformance</i>	<i>Score</i>
Criterion 23. Waste management		2
The manufacturer has an accredited Waste Management System (which may be part of a full SANS/ISO 14001 Environmental Management System or in-house management approved Waste Management Plan) in place within the organisation for the management of solid waste⁴. The System or Plan includes a requirement for Tier 1 suppliers to have similar waste management policies in place, ensuring responsible waste management in the supply chain.	A company approved Waste Management System or Plans that includes the raw materials procured from the supplier. The manufacturer's waste management plan must include a policy for waste management according to the waste hierarchy: reduce, reuse, recycle.	
Scoring: Manufacturer is Compliant = 1 Tier 1 suppliers are compliant = 0 – 1 Non-compliance = 0	A weighted average of the supplier's compliance by volume of raw materials used per product will be applied. The score for manufacturer compliance and supplier compliance are to be summed.	
Criterion 24. Packaging waste		1
The manufacturer has a management plan for packaging waste which includes a packaging take-back policy and/or instructions on the packaging indicating suitable and responsible means of disposing of or recycling the primary packaging material.	Copies of waste management plan as it pertains to product packaging and a copy of the instructions on the packaging.	
Scoring: Compliance = 1 Non-compliance = 0		

⁴ https://www.environment.gov.za/sites/default/files/legislations/integratedwaste_management_guidelines_0.pdf

1C.7 Air emissions

Criterion	Demonstration of conformance	Score
Criterion 25. Ozone depleting substances		1
The product must not contain any substances listed in the Montreal Protocol Annexes A, B, C or E including CFCs, HCFCs, hydrobromofluorocarbons, halons, methyl bromide, carbon tetrachloride, 1,1,1-trichloroethane (methyl chloroform) and bromochloromethane. Such substances are also not to be used in any cleaning products or processes for the cleaning of manufacturing equipment.	• SDS, chemical names and/or CAS numbers for each ingredient and cleaning substance, demonstrating compliance; and • Signed statement of all substances used in the cleaning of production equipment.	
Scoring: Compliance = 2 Non-compliance = 0		

1C.8 Water emissions

Criterion	Demonstration of conformance	Score
Criterion 26. Discharge to sewer		2
The total discharges to water from the production process must be treated and decreased by 90%, measured in terms of chemical oxygen demand (COD) in on-site or external dedicated sewage treatment works prior to being discharged to the receiving environment. Local by-laws regarding the treatment of effluent prior to discharge into municipal sewer system must be adhered to. If the manufacturing facility is outside a municipal boundary, the national regulations and licencing procedures must be followed.	• Wastewater treatment test reports in conformance with the SANS 6048⁵ (2010) or ISO 6060⁶ or ASTM D1252-00⁷. • The local by-law requirements must be submitted along with the test reports to demonstrate compliance.	

⁵ SANS 6048:2010 – Water - Chemical oxygen demand.

⁶ ISO 6060:1989 – Water quality – Determination of the chemical oxygen demand

⁷ ASTM D1252-00 – Standard test methods for chemical oxygen demand (dichromate oxygen demand) of water.

Note: This criterion relates to the production facility as a whole and is not measured with reference to the specific product. The manufacturer should strive to minimise the environmental impact of effluent by going beyond the minimum requirements of legislation and/or engaging in efforts to enhance the local water ecosystem, which will allow for a higher score.	
Scoring: Compliance plus ecosystem enhancement = 2 Compliance = 1 Non-compliance = 0	
Criterion 27. Water Emissions to the environment	1
Water emissions <u>from the manufacturing site</u> are not damaging to the receiving environment. This includes stormwater that may become contaminated on site and run off into natural water systems. The manufacturer reports the amount and destination of all water emissions resulting from the manufacturing process. Waste water (from any part of the production process) is not discharged directly into natural water bodies, unless within the permissible limits of the National Water Act no. 36 of 1998 (Revision of General Authorisations in terms of Section 39 of the National Water Act, Government Gazette 36820, 2013).	• Declaration of the destination of effluent (e.g. to municipal sewer, on-site treatment plant or natural water course), the volume discharged and the frequency of discharge. • Copy of permit and/or evidence of compliance with the Water Act, including weekly record of discharge volume and monthly record of discharge quality. • Water sample test report in accordance with relevant South African National Standards and from a SANAS (South African National Accreditation System) Accredited Laboratory.
Scoring: Compliance = 1 Non-compliance = 0	

2 Product-specific standards

2.A Fit for Purpose

(only conditional requirements)

To be certified, the product(s) must be fit to perform its intended purpose or application. A minimum level of quality and durability is implicit before the ecoASA ecolabel can be displayed on the product. The producer / manufacturer must ensure that the product is fit for its intended purpose.

2A.1 Product Scope

In order for a product to be eligible for the ecoASA label, it must fall within the scope of the standard. The scope in this context refers to the type of product and what it is used for.

Products that fall outside the scope may only be considered under special conditions.

Criterion	Demonstration of conformance	Score
Criterion 28. Product type and scope		Y/N
The scope of this standard is applicable to synthetic carpets, including nylon, polypropylene, polyester and acrylic products and wool and wool-rich products. The following components of a carpet system are included in the product scope: a) use surface b) backing material or substrate c) adhesive d) cushion/underlay e) flame retardants f) plasticizers g) dyes Other carpet materials that do not directly fit into the above may be considered for certification, provided the product fulfils the requirements of relevant sections of this standard. A carpet product that is sold as a system comprising of various components is considered to be one product line and must have all parts of the system certified under this standard.	• Detailed description of the product(s) or product range. • If the product is a clone, the manufacturer must provide both product specifications and a signed declaration from an Executive Officer describing the blend and explaining how the product is a clone. The signed declaration must disclose all differences between the products, however minor in the product composition, assembly, manufacturing process etc. • Explanation of applicability of the product(s) to the scope of this standard.	
Scoring: CONDITIONAL		

2A.2 Fit for purpose

To be certified, the product(s) must be fit to perform its intended purpose or application. A minimum level of quality and durability is implicit before the ecoASA ecolabel can be displayed on the product. The producer / manufacturer must ensure that the product is fit for its intended purpose.

Quality and durability have an important role to play as they relate to material waste.

Criterion	Demonstration of conformance	Score
Criterion 29. Fit for purpose		Y/N
To be certified, the product(s) must be fit (suitable) to perform its intended purpose or application. The product must meet or exceed the performance requirements of the relevant South African National Standards (listed in Appendix A). Carpets unable to be satisfy the SANS may apply for a deemed to satisfy certificate through Agrément SA, if such a certification option is available.	Documented proof of conformance with relevant standards.	
CONDITIONAL		
Criterion 30. Warranty		Y/N
The product must carry a quality warranty of at least 5 years. Notes: This criterion ensures that products are not of disposed of frequently and is an indicator of the fitness for purpose.	Warranty documents provided to customers.	
CONDITIONAL		
Criterion 31. Insect treatment	(only wool)	Y/N
Carpets containing wool must be treated against carpet moth and carpet beetle attack.	A signed declaration from the manufacturer that the carpet has/has not been treated and details of the type of treatment applied.	
CONDITIONAL.		

2.B Resource Extraction

Maximum score (wool): 12

Maximum score (synthetic): 5

The requirements in this section are intended to identify and address the major environmental loads of raw materials found in this product category.

The focus is not on the substance of the raw material but rather on the potential environmental impact of the production and acquisition of the raw material.

Raw materials that constitute ingredients of the finished product are considered in the production life cycle phase.

2B.1 Material content and efficiency

This section rewards responsible use of materials in terms of the amount of material used as well as the source of the materials.

Unless otherwise stated, the requirements in this section apply to each type of material contained in the finished product regardless of weight.

Criterion	Demonstration of conformance	Score
Criterion 32. Environmentally preferable sourcing of raw fibre		1
The manufacturer uses environmentally preferable materials, including any of the following: • rapidly renewable fibre content; • recycled content.	• Product specification details showing rapidly renewable fibre content/ recycled content per product unit. • For products claiming recycled material content, chain of custody evidence and contractor receipts showing volumes purchased.	
Scoring: Compliance = 1 Non-compliance = 0		
Criterion 33. Non-mulesed wool fibre	(only wool)	1
Wool used in carpet product does not contain any mulesed wool fibre.	Declaration from wool sheep producer with their clip advice ⁸ .	
Scoring: Compliance = 1 Non-compliance = 0		

⁸ <http://www.old.nwga.co.za/home-mainmenu-1/reports-documents/2013-10-07-13-02-28/mulesing.html>

2B.2 Hazardous substances

This section is intended to minimise the use of substances that are toxic or otherwise hazardous to humans.

<i>Criterion</i>	<i>Demonstration of conformance</i>	<i>Score</i>
Criterion 34. Use of bleach in raw material		1
All fibres are sourced from manufacturing facilities that do not chemically bleach yarn used for carpets.	- Signed declaration from yarn suppliers confirming conformance to the criterion and - Relevant product specification clearly detailing this requirement.	
Scoring: Compliance = 1 Non-compliance = 0		
Criterion 35. Synthetic pyrethroidsⁱ	(only wool)	1
Natural fibres intended for carpet must not be treated with synthetic pyrethroids for insect-resistance during the scouring process.	Signed declaration from the supplier confirming conformance to the criterion.	
Scoring: Compliance = 1 Non-compliance = 0		
Criterion 36. Biocides: wool fibre	(only wool)	1

The sum total content of each of the following groups of biocide on greasy wool fibres does not exceed the concentrations in the Table: Wool biocide limits.

Table 1: Wool biocide limits

Biocide	CAS number	Max Total Concentration
α-hexachlorocyclohexane	319-84-6	0.5 ppm
β-hexachlorocyclohexane	319-85-7	
γ-hexachlorocyclohexane (lindane)	58-89-9	
δ-hexachlorocyclohexane	319-86-8	
Aldrin	309-00-2	
Dieldrin	60-57-1	
Endrin	72-20-8	
P, p'-DDT	50-29-3	
P, p'-DDD	72-54-8	0.5 ppm
Cypermethrin	52315-07-8	
Deltamethrin	52918-63-5	
Fenvalerate	51630-58-1	
Cyhalothrin	68085-85-8	
Flumethrin	69770-45-2	
Chlorpyrifos	39475-55-3	2 ppm
Propetamphos	31218-83-4	
Diazinon	333-41-5	
Dichlofenthion	97-17-6	
Fenchlorphos	299-84-3	
Chlorfenvinphos	470-90-6	
Diflubenzuron	35367-38-5	2 ppm
Triflumuron	64628-44-0	

- If the biocides in the Table are not used, this must be stated in writing by the wool supplier with supporting evidence.
- If the biocides are used, signed documentation from the wool supplier regarding the amount of biocides used (in mg/kg fibre) and the procedure of application.

Notes: Evidence can be presented as annual test reports using modified methods of the following tests, for the listed substances:

- US EPA 3540A / SANS 3074 - Soxhlet extraction
- US EPA 3640A - Gel permeation clean up
- US EPA 8270A – Semi-volatile organic compounds by gas chromatography/mass spectrometry (GC/MS): capillary column technique
- Or IWTO DTM 59 Method for the determination of chemical residues on greasy wool.

Scoring:

Compliance = 1

Non-compliance = 0

2B.3 Water consumption and efficiency

The manufacturer is encouraged to source raw materials from suppliers that demonstrate responsible water consumption behaviour.

Criterion	Demonstration of conformance	Score
Criterion 37. Water consumption – woolⁱⁱ	(only wool)	1
Total water use measured at the water intake does not exceed 30,000 l/tonne of greasy wool scoured. Note: Measurement of water use must be continuous.	The manufacturer provides the following from the wool supplier: • Calculation of the total water used per tonne of greasy wool scoured with the calculation based on a 12 month average. Documents to support calculation, including total annual water used for the scouring processes and amount of greasy wool produced in kilograms or tonnes.	
Scoring: Compliance = 1 Non-compliance = 0		

2B.4 Energy consumption and efficiency

The manufacturer is encouraged to source raw materials from suppliers that demonstrate responsible energy consumption behaviour.

Criterion	Demonstration of conformance	Score
Criterion 38. Energy consumption – woolⁱⁱⁱ	(only wool)	1
Total energy used for the greasy wool scouring does not exceed 40 GJ/tonne of greasy wool scoured. The energy use of water treatment facilities is exempt from calculation of total energy for this criterion.	The manufacturer provides the following from the wool supplier: • Calculation of the total energy used per tonne of greasy wool scoured with the calculation based on a 12 month average. Documents to support calculation, including total annual energy used for the scouring processes and amount of greasy wool produced in kilograms or tonnes.	
Scoring: Compliance = 1 Non-compliance = 0		

2B.5 Water emissions

Water pollution due to emissions from a raw materials processing plant into the water system must be discouraged.

Criterion	Demonstration of conformance	Score
Criterion 39. Scouring surfactants	(only wool)	1
Surfactants used for the scouring of natural fibres are readily aerobically biodegradable or ultimately aerobically biodegradable.	Evidence in the form of test reports in accordance with OECD guidelines for the testing of chemicals, Test No. 301 A-F ⁹ ; 302 A-C; or equivalent test method accepted by ecoASA assessor.	
Scoring: Compliance = 1 Non-compliance = 0		
Criterion 40. Spinning lubricant	(only wool)	1
Spinning lubricant for wool sourced from suppliers does not exceed 6% of the weight of plant fibres or 3% of the weight of the fibres.	Documentation of production methods and chemical formulations.	
Scoring: Compliance = 1 Non-compliance = 0		
Criterion 41. Primary effluent - wool	(only wool)	1
Wool grease content in the primary effluent, before discharge or treatment, must not exceed 40 kg/tonne of greasy wool scoured.	Calculations of wool grease content in the primary effluent, where calculations must be based on a 12 month average of wool grease levels in effluent, annual water use and water use per 1000 kg. Relevant documentation of calculations , quality control and production methods (including annual effluent monitoring results, annual water use and water use per tonne).	
Scoring: Compliance = 1 Non-compliance = 0		

⁹ <https://www.oecd-ilibrary.org>

Criterion 42. Moth proofing for wool (scouring facility)	(only wool)	1
If the moth proofing agents permethrin or bifenthrin are used, the levels of these agents in total factory effluent of scouring facility must not exceed: Permethrin 9.5 g/tonne of treated wool Bifenthrin 0.25 g/tonne of treated wool	• Test reports, calculations and supporting documentation. • Testing must be conducted on a combined 5-day wastewater sample and reported as an annual average.	
Scoring: Compliance = 1 Non-compliance = 0		

2B.6 Air emissions

Air pollution due to emissions from a raw materials processing plant into the atmosphere must be discouraged.

Criterion	Demonstration of conformance	Score									
Criterion 43. Volatile organic compounds		1									
The average annual emission of VOC into the air as a result of polymerisation of raw materials do not exceed 1.2 g/kg polyester production.	A declaration from the raw material supplier as to the VOC emissions with reference to test reports.										
Scoring: Compliance = 1 Non-compliance = 0											
Criterion 44. NO_x and SO₂ emissions	(only synthetic)	1									
Annual air emission levels for NO_x and SO₂, from the production of nylon and polypropylene (PP) fibres do not exceed the limits below: <table border="1"> <thead> <tr> <th>Production Fibre</th><th>NO_x emission limit</th><th>SO₂ emission limit</th></tr> </thead> <tbody> <tr> <td>Nylon 6 (monomer production)</td><td>10 g/kg of finished product</td><td>-</td></tr> <tr> <td>Nylon 6.6 (monomer production)</td><td>50 g/kg of finished product</td><td>-</td></tr> </tbody> </table>	Production Fibre	NO _x emission limit	SO ₂ emission limit	Nylon 6 (monomer production)	10 g/kg of finished product	-	Nylon 6.6 (monomer production)	50 g/kg of finished product	-	Provide report from the supplier regarding the NO _x and SO ₂ emissions with reference to test reports.	
Production Fibre	NO _x emission limit	SO ₂ emission limit									
Nylon 6 (monomer production)	10 g/kg of finished product	-									
Nylon 6.6 (monomer production)	50 g/kg of finished product	-									

Polypropylene (monomer production, polymerization & granulation)	12 kg/tonne of PP	11 gk/tonne PP		
Scoring: Compliance = 1 Non-compliance = 0				
Criterion 45. Acrylonitrile emissions			(only synthetic)	1
Average annual air emissions of acrylonitrile (during polymerisation and other processes up to the step of being solution ready for spinning) is less than 1 g/kg of the fibre production. Notes: This is relevant to acrylic fibres and is not applicable to other types of carpets.			Test report, calculations and supporting documents from the fibre manufacturer on their air emissions, arising from the relevant fibre production. If Acrylonitrile is not used in any processes, this must be reported and verified.	
Scoring: Compliance = 1 Non-compliance = 0				

2B.7 Waste minimisation

Reducing total waste benefits the environment by reducing the capacity demand on landfill sites and encourages reduced consumption of resources through dematerialisation and increases production efficiency.

This is addressed in the requirements of Part 1.

2.C Production

Maximum score (wool): 20
Maximum score (synthetic): 19

The requirements in this section are intended to identify and address the major environmental loads as a result of the production of the product.

The design (material composition) of the product is considered to be a part of the production process. Thus, the ingredients, the environmental impact of the ingredients and the environmental impact of the manufacturing process are considered in the section.

2C.1 Material content and efficiency

The criteria in this section are intended to address impacts that may occur over the life cycle of a product that can be avoided or mitigated during the design and production phase of the product.

Unless otherwise stated, the requirements in this section apply to each type of material contained in the finished product regardless of weight.

This section is intended to encourage manufacturers to reduce the amount of material used, thus minimising waste as well as raw materials/resources needed.

Criterion	Demonstration of conformance	Score
Criterion 46. Material efficiency		1
Material use is optimised to ensure efficiency. For an initial certification, the product manufacturer submits material use data including: • Yarn yield (% input weight/output weight) • Yarn usage variance (% input weight/output weight). This is used as baseline data for the product. For certificate renewal, the product manufacturer must provide the above data, demonstrating at least a 5% improvement in material efficiency or provide a detailed explanation demonstrating that material use is already optimally efficient.	Record of material (contents and quantities) used at each stage of production.	
Scoring: Compliance = 1 Non-compliance = 0		

Criterion 47. Recycled content		2
The product (including backing contains a percentage (by mass) of recycled, reused and/or rapidly renewable material.	Product specification and chain of custody for recycled and/or rapidly renewable material.	
Scoring: 60% - 100% recycled/reused/renewable by weight = 2 30% - 59% recycled/ reused/ renewable by weight = 1 0% - 29% recycled/ reused/ renewable by weight= 0		
Criterion 48. Recovered fibre content^{iv}		1
The manufacturer recovers 95% of all post-industrial fibre waste for reuse in alternative processing streams or applications.	Provide documented process description of how recovered fibre is reused by the manufacturer for the same or other products. If the recovered content is reused by a third party, contractual agreement regarding this must be provided.	
Scoring: At least 95% recovered = 1 No evidence or no recovered content = 0		

2C.2 Hazardous material

These criteria are intended to address some of the main hazardous substances found within the product category, added to the product, or to ingredients during manufacturing. The intention is to reduce hazardous pollutants entering the environment.

Criterion	Demonstration of conformance	Score
Criterion 49. Prohibited compounds^v		1
The following compounds, their functional derivatives or in-situ precursors are not added to finished products, their components part or be used at any stage of the manufacturing process including preparatory agents, cleaners or degreasers in the production facility: 1. Phthalates except DINP (di-isononyl phthalate, CAS 28553-12-0 and 68515-48-	- A schedule of the constituent chemical substances (g/kg in manufacture of the product), SDS; or - Signed declaration that the mentioned compounds, their functional derivatives or in-situ precursors are not added to finished product or used in any part of the manufacturing process.	

0) and DIDP (di-isodecyl phthalate, CAS 26761-40-0 and 68515-49-1); 2. Polybrominated diphenyl ethers (PBDE), or short-chain (<13 C) chlorinated organic flame retardants; 3. Chlorophenols including pentachlorophenol (PCP); 4. Bisphenol A; 5. Tar oils (benzo (a) pyrene); 6. Fluoropolymer additives; 7. Aniline based amines; 8. Aziridine or polyaziridines; 9. Dimethyl ammonium chlorides: Bis(hydrogenated tallow alkyl) dimethyl ammonium chloride (DTDMAC), Distearyl dimethyl ammonium chloride (DSDMAC), and Di(hardened tallow) dimethyl ammonium chloride (DHTDMAC); 10. Ethylene diamine tetra acetate (EDTA) or ethylene diamine tetra acetic acid; 11. Linear alkylbenzene sulfonates (LAS); 12. Alkylphenoethoxylates (APEO) and their derivatives (APDs); Diethylene triamine penta acetate (DTPA)	
Scoring: Compliance = 1 Non-compliance = 0	
Criterion 50. Acrylonitrile content^{vi}	1
Residual acrylonitrile content in fibres after fibre production are less than 1.5 mg/kg. Notes: This is only applicable for acrylic fibre carpets.	• Test reports to show content. • If no acrylic fibre is used in the product, this must be declared.
Scoring: Compliance = 1 Non-compliance = 0	

Criterion 51. Prohibited substances in backing material^{vii viii}		1
The following substances are not used in the production of any plastic or foam products or in the cleaning of production equipment: 1. Chlorofluorocarbons (CFC) 2. Hydrochlorofluorocarbons (HCFC) 3. Hydrofluorocarbons (HCF) 4. Methylene Chloride 5. Any halogenated organic solvents 6. Phthalates If recycled plastic or foam is used in the product, this must be stated. Recycled content containing, or having been treated with halogenated substances during previous lifecycles are exempt from this criterion.	• A declaration from the manufacturer of the padding and backing material, to the conformance of the criterion. • A list of chemicals used in the backing material.	
Scoring: Compliance = 1 Non-compliance = 0		
Criterion 52. Butadiene content^{ix}		1
If 1,3-butadiene is used in latex rubber or foams, its residual concentration must be less than 1 mg/kg of the latex rubber or foam product.	A report on a test carried out in accordance with the following procedure must be provided: Grind and weigh a sample of the cured product before analysis. Sampling must be done using of a headspace sampler then analysed by gas chromatography, with detection by use of a flame ionization detector.	
Scoring: Compliance = 1 Non-compliance = 0		
Criterion 53. Adhesives content^x		1
Adhesives do not contain alkylphenolethoxylates, halogenated solvents, bioaccumulative preservatives, and phthalates other than DINP (di-isononyl phthalate) and DIDP (di-isodecyl phthalate). Notes:	Technical specifications of the adhesive which demonstrates its compliance the criterion. This may include an SDS and/or ingredients list.	

DINP (di-isononyl phthalate) and DIDP (di-isodecyl phthalate) are excluded from the restricted content as they are considered safe (1).	
Scoring: Compliance = 1 Non-compliance = 0	
Criterion 54. Adhesives content - carcinogens^{xi}	1
Adhesives used are not capable of exposing users to carcinogenic substances in categories 1, 2A and 2B as classified by the WHO International Agency for Research on Cancer at levels greater than 1/20th of the limits set by GHS.	Technical specifications of the adhesives demonstrating compliance with the criterion. This may include an SDS and/or ingredients list.
Scoring: Compliance = 1 Non-compliance = 0	
Criterion 55. Dying of wool – after-chroming^{xii}	(only wool) 1
After-chroming techniques are not used in the dyeing or colouring of fibres.	Provide a signed declaration that after-chroming is not used in the dying process.
Scoring: Compliance = 1 Non-compliance = 0	
Criterion 56. Stain blockers^{xiii}	1
Sulphonated phenolic stain blockers applied in closed loop systems are at concentrations in the final product less than 1 g/m ² of carpet.	Schedule of SDSs or stainblockers used in the product and SABS accredited tests results of the final concentration in the carpet.
Scoring: Compliance = 1 Non-compliance = 0	
Criterion 57. Azo dyes^{xiv}	1
Azo dyes that may cleave to any one of the carcinogenic aromatic amines are not used in products. Notes: See list of aromatic amines in Appendix C.	Signed declaration confirming conformance to the criterion.

Scoring: Compliance = 1 Non-compliance = 0		
Criterion 58. Flame retardants^{xv}		1
Inorganic ammonium phosphates (diammonium phosphates, ammonium polyphosphates etc.) or polybrominated diphenyl ethers are not used as flame retardants in the product.	- If flame retardants are not used, this must be stated in a signed declaration. - If flame retardants are used, a schedule listing such and relevant SDS must be submitted.	
Scoring: Compliance = 1 Non-compliance = 0		
Criterion 59. Flame retardant – Boron compounds^{xvi}		1
If boron compounds are used, it must be bound directly with the polymer during production.	- Signed declaration confirming conformance to the criterion. - If boron is not used in the product, clearly state in signed document.	
Scoring: Compliance = 1 Non-compliance = 0		
Criterion 60. Flame retardant – antimony oxide-based^{xvii}		1
If antimony oxide based flame retardants are used, it must be bound directly with the polymer during production. Antimony trioxide is prohibited in certified products.	- Signed declaration confirming conformance to the criterion. - If antimony is not used in the product, clearly state in signed document.	
Scoring: Compliance = 1 Non-compliance = 0		

2C.3 Water consumption and efficiency

The manufacturer is encouraged demonstrate responsible water consumption behaviour.

Criterion	Demonstration of conformance	Score
Criterion 61. Water Consumption^{xviii}		1
In order to reduce water consumption, manufacturers must either: 1. Colour products using solution dyeing; 2. Have a total process water consumption of ≤ 50L/kg of final product; or 3. Recycle a minimum of 40% of dyeing process water.	Documented evidence of water consumption with details on how water use has been minimized. Documentation must include total water usage and the amount of product produced within a minimum of 3 month period, supported by metered water consumption data.	
Scoring: Compliance = 1 Non-compliance = 0		

2C.4 Energy consumption and efficiency

The manufacturer must demonstrate an awareness of and commitment to energy efficiency. Energy consumption, particularly fossil fuel based energy, has environmental implications in terms of the GHG emissions associated with generating power. Thus, energy efficiency and/or the use of renewable energy is encouraged.

This is addressed in the requirements of Part 1.

2C.5 Water emissions

Improperly managed water emissions can have harmful effects to the receiving environment. Water pollution due to emissions from the manufacturing process of the product into the water system must be discouraged.

Criterion	Demonstration of conformance	Score
Criterion 62. COD in dye effluent^{xix}		1
The chemical oxygen demand (COD) level in the dye house effluent must not exceed 35 kg/tonne of fibre dyed unless the effluent is sent to municipal treatment plant.	Test reports in conformance with SANS 6048 (2010) or ISO 6060 or ASTM D 1252-00 or equivalent.	
Scoring: Compliance = 1 Non-compliance = 0		

Criterion 63. Chromium in effluent^{xx}		1
Effluent from the dye house must not contain more than 3 ppm of total chromium (excluding Chromium VI, which is not to be used).	Test reports using SANS 241:2015 or for applicants based outside South Africa, BS EN ISO11885:1998, ISO 17294-2:2003 or EN 1233:1997.	
Scoring: Compliance = 1 Non-compliance = 0		

2C.6 Air emissions

Air pollution due to emissions from the manufacturing plant into the atmosphere must be discouraged.

Criterion	Demonstration of conformance	Score
Criterion 64. Adhesives VOCs^{xxi}		1
Adhesives recommended for the installation of certified products must be water-based, pressure sensitive, and contain no more than 5% VOC by weight.	Technical specifications of the adhesive which demonstrates its compliance the criterion. This may include an SDS and/or ingredients list.	
Scoring: Compliance = 1 Non-compliance = 0		

2C.7 Waste Minimisation

Reducing total waste benefits the environment by reducing the capacity demand on landfill sites and encourages reduced consumption of resources through dematerialisation and increases production efficiency.

This is addressed in the requirements of Part 1.

2.D Packaging and Distribution

Maximum score: 5

Since the product packaging is an integral part of the sold product, it is important to also consider the environmental impact of the packaging as well as the distribution of the product.

The requirements in this section are intended to identify and address the major environmental loads associated with the packaging and distribution the product.

2D.1 Product information

Product information allows customers to use products in a responsible and sustainable manner.

Criterion	Demonstration of conformance	Score
Criterion 65. Product information^{xxii}		1
Products must be accompanied by the following information for product suppliers, installers and consumers, clearly stating: • Product composition; • The appropriate type of area to use the product; • Installation methods, including recommended adhesives; • Cleaning and care instructions that prolongs the usable lifespan of the product. Care instructions must not specify nor require the use of any substance restricted under any section of this standard; and • Recycling instructions or details of the product stewardship offer.	• Copy of information sheet. • Sample of product packaging showing how information sheet is included.	
Scoring: Compliance = 1 Non-compliance = 0		

2D.2 Material content and efficiency

This section is intended to encourage manufacturers to reduce the amount of material used, thus minimising waste as well as raw materials/resources needed.

Criterion	Demonstration of conformance	Score
Criterion 66. Material efficiency		1
The manufacturer uses minimal packaging material.	Statement of packaging (by volume) per product unit and an explanation of how the packaging was minimised.	
Scoring: Compliance = 1 Non-compliance = 0		
Criterion 67. Recyclability^{xxiii}		1
The primary and secondary packaging material is biodegradable, recyclable or reusable. Primary and secondary packaging must not be labelled, coated or treated in a way which would prevent recycling activities.	• A statement from the manufacturer describing the packaging material properties (biodegradable, recyclable or reusable), including information regarding composition of packaging materials, chemical names, CAS numbers, technical data sheets or SDS where applicable; and • A copy of the product information sheet showing the recommended disposal of packaging material. • If recyclable, evidence must be provided that the material can be accepted by local recycling plants or details must be provided of third party agreement for recycling content. This evidence may be in the form of a signed statement by the manufacturer.	
Scoring: Compliance = 1 Non-compliance = 0		

2D.3 Hazardous substances

The criteria in this section are intended to address some of the main hazardous substances found in packaging for the product. The intention is to reduce the use of hazardous materials or substances which are harmful to the environment or human health (during manufacturing or use).

Criterion	Demonstration of conformance	Score
Criterion 68. Halogenated substances^{xxiv}		1
Halogenated plastics must not be used in product packaging.	Ingredients list of substance(s) incorporated in the packaging material. This may be made available in the information sheet included in the packaging or on the packaging or on the company website.	
Scoring: Compliance = 1 Non-compliance = 0		

2D.4 Water consumption and efficiency

The manufacturer is encouraged demonstrate responsible water consumption behaviour.

This is addressed in the requirements of Part 1.

2D.5 Energy consumption and efficiency

Packaging material, whether produced by the manufacturer or sourced from suppliers, should be produced in a manner energy efficient.

This is addressed in the requirements of Part 1.

2D.6 Water emissions

Water pollution due to emissions from the production of packaging materials must be discouraged.

This is addressed in the requirements of Part 1.

2D.7 Air emissions

Air pollution due to emissions from the production of packaging materials must be discouraged.

This is addressed in the requirements of Part 1.

2D.8 Waste minimisation

Reducing total waste benefits the environment by reducing the capacity demand on landfill sites and encourages reduced consumption of resources through dematerialisation and increases production efficiency.

<i>Criterion</i>	<i>Demonstration of conformance</i>	<i>Score</i>
Criterion 69. Excess installation material		1
Installation scrap must be recycled and may be reworked into a new product. Excess product must be returned to the manufacturer and recycled or reused.	A copy of instructions included in the packaging and on the manufacturer's website regarding the return of excess or scrap product.	
Scoring: Compliance = 1 Non-compliance = 0		

2.E Use

Maximum score: 7

It is important to also consider the environmental impact of the product once it is in use. This is relevant to the application of the product as well as the performance of the product once it has been applied.

The requirements in this section are intended to identify and address the major environmental loads associated with the life cycle stage of the product in use.

2E.1 Product maintenance

Maintenance and cleaning are important use-phase (on-going) life cycle impacts that need to be foreseen during the development of a product.

Criterion	Demonstration of conformance	Score
Criterion 70. Cleaning^{xxv}		1
Common carpet cleaning chemicals must not be prohibited from use on the product, except if specific chemicals nominated by the producer that if applied may void the product warranty.	A copy of cleaning and care instructions that accompany the product must be provided.	
Scoring: Compliance = 1 Non-compliance = 0		
Criterion 71. Replacement parts^{xxvi}		2
The product is sold with an offer to replace worn tiles/sections and this can be done without damaging the backing or surrounding material. Incentives and/or training may be necessary to encourage replacement or parts, rather than the whole carpet.	• Copy of information explaining the availability and application of replacement parts, together with contact details of the supplier. This may be part of the care instruction, user manual, or other information physically provided with the product and must also be on the company website. • Incentive or training scheme details.	
Scoring: Incentive or training offered = 2 Compliance = 1 Non-compliance = 0		

2E.2 Hazardous substances

The criteria in this sub-category are intended to ensure that no substances that are harmful to humans or the environment are needed for the cleaning and maintenance of the product during use.

<i>Criterion</i>	<i>Demonstration of conformance</i>	<i>Score</i>
Criterion 72. Cleaning chemicals		1
Carpet cleaning chemicals recommended must not contain any hazardous substances as per GHS.	Copy of cleaning instructions with ingredients of recommended cleaning products.	
Scoring: Compliance = 1 Non-compliance = 0		

2E.3 Water consumption and efficiency

This section is intended to ensure that excessive amounts of water are not required for the cleaning of the product.

<i>Criterion</i>	<i>Demonstration of conformance</i>	<i>Score</i>
Criterion 73. Cleaning water		1
The process of cleaning the product once installed must not be water-intensive. There is not current baseline for water consumption for cleaning of products. This criterion is met by manufacturer demonstrating that water consumption for cleaning has been considered by providing a recommended water usage per product unit for normal cleaning.	Copy of cleaning instructions including recommended water required for cleaning in L/unit product as well as recommended frequency of cleaning for normal use.	
Scoring: Compliance = 1 Non-compliance = 0		

2E.4 Air emissions

VOCs released by solvents and other substances reduce indoor air quality in buildings. Indoor air quality is vital for occupant health. Thus, limiting the VOC content is important for a healthy building.

Criterion	Demonstration of conformance	Score
Criterion 74. VOCs^{xxvii}		1
Products must not produce a total VOC emission greater than 0.5 mg/m ² /hr or a 4-phenylcyclohexene emission greater than 0.05 mg/ m ² /hr.	• Test reports on VOC emissions using one of the following test methods: ◦ ASTM D5116-06 Standard guide for small-scale environmental chamber determinations of organic emission from indoor materials/products; or ◦ ASTM D6670-01 (2007) Standard practice for full scale chamber determination of volatile organic emissions from indoor materials/products. • A copy of the laboratory instructions for sample preparation for delivery to the laboratory.	
Scoring: Compliance = 1 Non-compliance = 0		
Criterion 75. Adhesives VOCs		1
The total VOC content of carpet adhesives is no more than 50 g/litre of adhesive.	• VOC emission test reports from SABS accredited testing laboratory. The total VOC content can be determined by ASTM D3960. • If not adhesive is used, a statement declaring this from the manufacturer.	
Scoring: Compliance = 1 Non-compliance = 0		

2.F Disposal and reuse

Maximum score: 3

Responsible treatment of the product at the end of its life is important to consider to avoid additional pressure on landfill sites.

2F.1 Material content and efficiency

Products that are difficult to separate into recyclable parts at end-of-product life are significantly more likely to contribute to landfill, even if the component materials are recyclable. Products designed to be separable into recyclable parts ensure that the disposer does not face unnecessary barriers to responsible disposal of the product at the end of the products useful life. The following criteria also facilitate an effective Product Stewardship Program, mentioned in later parts of the Standard.

Criterion	Demonstration of conformance	Score
Criterion 76. Design for separability^{xxviii}		1
Products must be separable into recyclable or re-useable units with or without the use of specialist tools. Instruction for the disassembly method must be provided with the carpets at point of sale. Instruction for the disassembly method must be provided with the carpets at point of sale, if the components are to be recycled/reused at consumer level.	• Statement from manufacturer declaring that the product is separable. • If the material can be recycled at consumer level, a copy of the instructions showing how disassembly can be achieved (including use of any tools). • Details of materials used in the product.	
Scoring: Compliance = 1 Non-compliance = 0		

2F.2 Waste minimisation

Reducing total waste reduces the generation of hazardous waste, encourages reduced consumption of resources through dematerialisation and increases production efficiency.

Criterion	Demonstration of conformance	Score
Criterion 77. Product stewardship^{xxix}		2
A product stewardship program must be in place and aligned with the Regulations Regarding Extended Producer Responsibility (2020) to collect used products and divert them from landfill or incineration. The manufacturer (applicant) shall: - accept their product back without additional cost (excluding transportation costs) for further recycling in a specialist recycling facility; or - diverting product from landfill by accepting their product back without additional cost (excluding transportation costs) to be reused for an alternative use (such as weedmatting); or - have contractual arrangements with a third party to receive the product and recycle or refurbish it. Contractual arrangements with the third party should nominate the estimated volume of product to be processed annually. Details relating to the above product stewardship programme requirements and contact details for the programme operator(s) must also be made publicly available from the official company website.	- Copy of instructions outlining the take back service including the costs, contact details of the take-back service, relevant website documentation; And where applicable: - Copy of contractual agreements existing between the applicant(s) with either of the following: third party suppliers, transport companies, charities, second hand retailers or refurbishment companies. - Copy of contractual arrangement with local recycler or consumer of used product or refurbisher of used product. - Incentive scheme to encourage the end user to return used product. For an additional point, evidence should also be provided (in the form of a short report and verifiable testimony) that the take-back policy is being effectively implements.	
Scoring: Take-back policy is in place and effective = 2 Take-back policy is in place = 1 Non-compliance = 0		

3 Bibliography

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4. **Best, Janet.** *Colour Design: Theories and Applications*. 2012.

Appendix A *SANS Carpet Standards (Fit for Purpose)*

SANS #	Name	Notes
147	Determination of number of tufts/ or loops per unit length and per unit area	Not directly related to the durability nor quality but it has to do with fit for purpose testing
150	Machine-made textile floor coverings — Determination of thickness	
155	Textile floor coverings - Determination of thickness of pile above the substrate	
883	Flexible cellular polymeric materials — Polyurethane foam for load-bearing applications excluding carpet underlay — Specification	Refer to Annex A of this standard for applications
1375	Textile floor coverings (pile construction)	
1415	Textile floor coverings (needle-punched construction)	Wear class (durability) , colourfastness, grading (Annex C)
1419	Carpet underlays	• Laid underneath the carpet to prevent wearing against hard surface • Create comfort which may help prevent leg fatigue • Provide a quieter environment • Less material needed for heating and cooling of rooms due to its thermal insulation properties.
1471	Textile floor coverings — Assessment of changes in appearance	Changes in the structure, thickness, colour and pattern are assessed. This would determine if the carpet still delivers what it is designed to do. It is more of fit for purpose testing
2424	Textile floor coverings — Vocabulary	Describes all the terms related to textile coverings one would need to know
2551	Machine-made textile floor coverings — Determination of dimensional changes due to the effects of varied water and heat conditions	There are variables such as water and heat which may contribute to the wearing and quality of the carpet.

4918	Resilient, textile and laminate floor coverings — Castor chair test	Specifies methods for assessments, such as wear behaviour of textile floor coverings, change in colour etc.
4919	Carpets — Determination of tuft withdrawal force	The tuft withdrawal force tester is mainly used for determination of force needed to pull out tufts from unknotted tufted carpets.
6002	Colour fastness of textile floor coverings to shampooing	Assessing the test specimen for change in colour
6004	Mass of total pile yarn per unit area of tufted textile floor coverings	
6005	Mass per unit area of effective pile above the substrate of textile floor coverings	
6188	Textile floor coverings — Loss of thickness after brief, moderate static loading	The method is intended to simulate the effect that a chair leg, exerting pressure for a short period, would have on a floor covering.
6356	Textile floor coverings — Assessment of static electrical propensity — Walking test	
8543	Textile floor coverings — Methods for determination of mass	
10186	The installation of textile floor coverings	
10361	Textile floor coverings — Production of changes in appearance by means of Vettermann drum and hexapod tumbler tester	A test which provides a rating of the ability of a carpet to withstand matting and crushing which are caused by pressure exerted either by furniture(e.g couch) and causes the pile yarns to compress and flatten out Also happens when the padding thickness is incorrect.
10834	Textile floor coverings - Non-destructive measurement of pile thickness above the backing - WRONZ gauge method	
10965	Textile floor coverings — Determination of electrical resistance	
11378-2	Textile floor coverings — Laboratory soiling tests — Part 2: Drum test	Scope of testing can be extended to assess the effects of fibre finishes, cleaning chemicals and cleaning equipment (see annex A).

11857	Textile floor coverings — Determination of resistance to delamination	Condition where the secondary backing of the carpet separates from the primary backing, the binder starts to wear off.
12951	Textile floor coverings — Determination of mass loss using the Lisson test	
50994	Textile floor coverings — Determination of the side length, squareness and straightness of tiles	
Wool		
3074	Wool — Determination of dichloromethane-soluble matter in combed sliver	

Appendix B *Properties of types of carpets*

Synthetic carpets are a type of textile flooring composed of synthetic fibres made from various chemical compounds. There is a wide range of synthetic fibre carpets available on the market with properties as described below:

- Nylon:
 - Durable and easy to clean.
 - Resilient to traffic; a good yarn memory prevents crushing.
 - It has good abrasion resistance.
 - Resists stains well with treatment and holds colour well.
 - Prone to static build-up, unless specially treated.
- Polypropylene/olefin:
 - Inexpensive.
 - It has good stain resistance (except for oil-based stains).
 - Resists fading in sunlight.
 - Has poor resilience, which can lead to crushing.
 - Colours are limited due to the way it is dyed.
 - It has poor abrasion resistance.
- Polyester:
 - Resistant to water-soluble stains.
 - Has poor resiliency.
- Acrylic:
 - Successfully used in blends with wool and other fibres.
 - Inexpensive.
 - Resists soiling, stains, static and mildew.
 - Easy to clean.
 - Resistant to moth damage.
 - Resists fading in sunlight
 - Wicks away moisture and dries quickly.
 - Not suitable for high traffic areas.
 - Less durable than wool.
 - Can become fuzzy when fibre deteriorate.

Natural fibre carpets are comprised of materials that grow in nature. In South Africa, a natural fibre carpet will usually mean it is a wool fibre carpet or wool blend. This type sells less since it is more expensive than synthetic carpets. Natural fibre carpets have the following typical properties:

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- a) Since wool is a renewable resource, it may be considered environmentally friendly and also biodegradable.
 - b) Resists compacting or crushing, recovers well from traffic and furniture compression.
 - c) Fire resistant and self-extinguishing, thus safe.
 - d) Dirt repellent and stains are easily removed.
 - e) Warmer in the winter and cooler in the summer, moderating temperature by absorbing and releasing moisture as needed.
 - f) Adds to comfort as it can hold a high percentage of moisture without feeling wet.
 - g) Susceptible to moths and carpet beetle larvae, though it can be treated with an insecticide to prevent the problem.
 - h) Alkaline substances found in some detergents can damage wool fibres.
 - i) Suitable for medium traffic.
 - j) Does not release VOC's (provided it is not attached to a synthetic backing).

Appendix C *List of aromatic amines*

Table 2: Aromatic amines as listed in EU Directive 2002/61/EC

Name	CAS number
4-aminodiphenyl	92-67-1
Benzidine	92-87-5
4-chloro-o-toluidine	95-69-2
2-naphtylamine	91-59-8
o-aminoazotoluene	97-56-3
2-amino-4-nitrotoluene	99-55-8
p-chloroaniline	106-47-8
2,4-diaminioaniso	615-05-4
4,4-diaminodiphenylmethane	101-77-9
3,3-dichlorobenzidine	91-94-1
3,3-dimethoxybenzidine	119-90-4
3,3-dimethylbenzidine	119-93-7
3,3-dimethyl-4,4-diaminodiphenylmethane	838-88-0
p-cresidine	120-71-8
4,4-methylene-bis-(2-chloroaniline)	101-14-4
4,4-oxidianiline	101-80-4
4,4-thiodianiline	139-65-1
o-toluidine	95-53-4
2,4-diaminotoluene	95-80-7
2,4,5-trimethylaniline	137-17-17
o-anisidine	90-04-0
4-aminoazobenzene	60-09-3

End notes:

- ⁱ GECA 38
- ⁱⁱ GECA 14
- ⁱⁱⁱ GECA 15
- ^{iv} GECA 7c
- ^v GECA 27
- ^{vi} GECA 19
- ^{vii} GECA 20
- ^{viii} GECA 23
- ^{ix} GECA 21
- ^x GECA 25
- ^{xi} GECA 25
- ^{xii} GECA 28
- ^{xiii} GECA 28
- ^{xiv} GECA 30
- ^{xv} GECA 33
- ^{xvi} GECA 34
- ^{xvii} GECA 35
- ^{xviii} GECA 42
- ^{xix} GECA 31
- ^{xx} GECA 32
- ^{xxi} GECA 25
- ^{xxii} GECA 48
- ^{xxiii} GECA 50
- ^{xxiv} GECA 49
- ^{xxv} GECA 4
- ^{xxvi} GECA 5
- ^{xxvii} GECA 44
- ^{xxviii} GECA 6
- ^{xxix} GECA 47