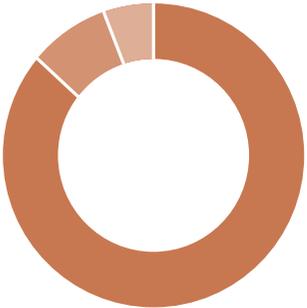
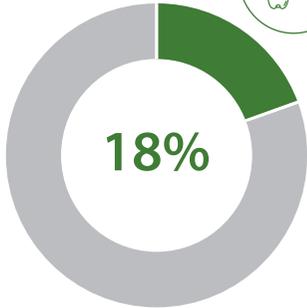


Characteristics 	Specifications 	Care 	Ignitability 	Environment 
<p>Total composition 86%PES 9%CO 5%MA</p>  <p>Width 140 + 4cm</p> <p>Weight 540 gr/m² ± 5 % 756 gr/lm ± 5 %</p> <p>Custom code UE: 5801.36.00 USA: 5801.36.00.20</p> <p>Laboratory test number Document 13868, 13865, 13884, 13883 Entry 101094, -01, -02</p>	<p>Seam slippage resistance (mm) 1,00 EN ISO 13936/2:2004 1,00 WARP WEFT</p> <p>Abrasion resistance (End point) 200.000 EN ISO 12947-2:1998</p> <p>Abrasion resistance (change of aspect: 3000 cycles) 4-5 EN ISO 12947/4:1998 and EN 14465:2003 (Annex A)</p> <p>Pilling resistance 5 EN ISO 12945/2:2000</p> <p>Lightfastness 5-6 EN ISO 105-B02:1998 & 105 B02/A01:2002</p> <p>Colour fastness to rubbing 5 EN ISO 105-X12:2016 4-5 DRY WET</p>	<p>Soiling and cleanability 4-5 FORD FLTM BN 112-08:2005</p> <ul style="list-style-type: none"> Spot-cleaning with soap and water No chemicals needed for cleaning Machine-washable  <p>Washing conditions 40 P W</p> <p>Notes Iron on reverse side.</p> <p>Dimensional change domestic washing and drying (%) -1,60% -2,00% EN ISO 3759:2008, EN ISO 6330:2000, EN ISO 5077:2008</p> <p>Attention When confectioning or washing a sofa cover with velcro, attach a protective strip to avoid damage to the fabric.</p>	<p>BS5852 Source 0 ✓ BS5852 Source 1 ✓ EN1021-Part 1:2006 ✓ EN1021-Part 2:2006 ✓ CAL TB 117:2013 ✓ NFPA 260:2013 ✓ BS 7176 Low Hazard ✓ UNI 9175 Clase 3IM ✓ IMO Anexo 1 Parte 8 ✓</p>	<p>Environmental composition</p>  <p>18% Recycled yarn = 3 bottles</p> <ul style="list-style-type: none"> Recycled yarn 18% <ul style="list-style-type: none"> GRS Recycled PET bottles 12% GRS Recycled CO waste 6% Standard yarn 82% <ul style="list-style-type: none"> PES yarn 74% MA yarn 5% CO yarn 3% <p>Sustainability</p> <ul style="list-style-type: none"> Oekotex certified REACH approved chemicals and dyes Biocide and PFCs free Zero-waste production Manufactured under ISO 9001 and ISO 14001 standards Made in Barcelona (EU) <p>   </p>

From its origins, **Crevin, s.a.** dedicated to the fabrication and commercialization of fabrics, has targeted to achieve the highest levels of quality of both product and services, in order to obtain the maximum satisfaction and fidelity of its customers.

This fact, along with the commitment to protect the environment, have made us join an **Integrated Management System, according to the UNE-EN-ISO 9001 and UNE-EN-ISO 14001** models, which allows us to ensure our purpose.

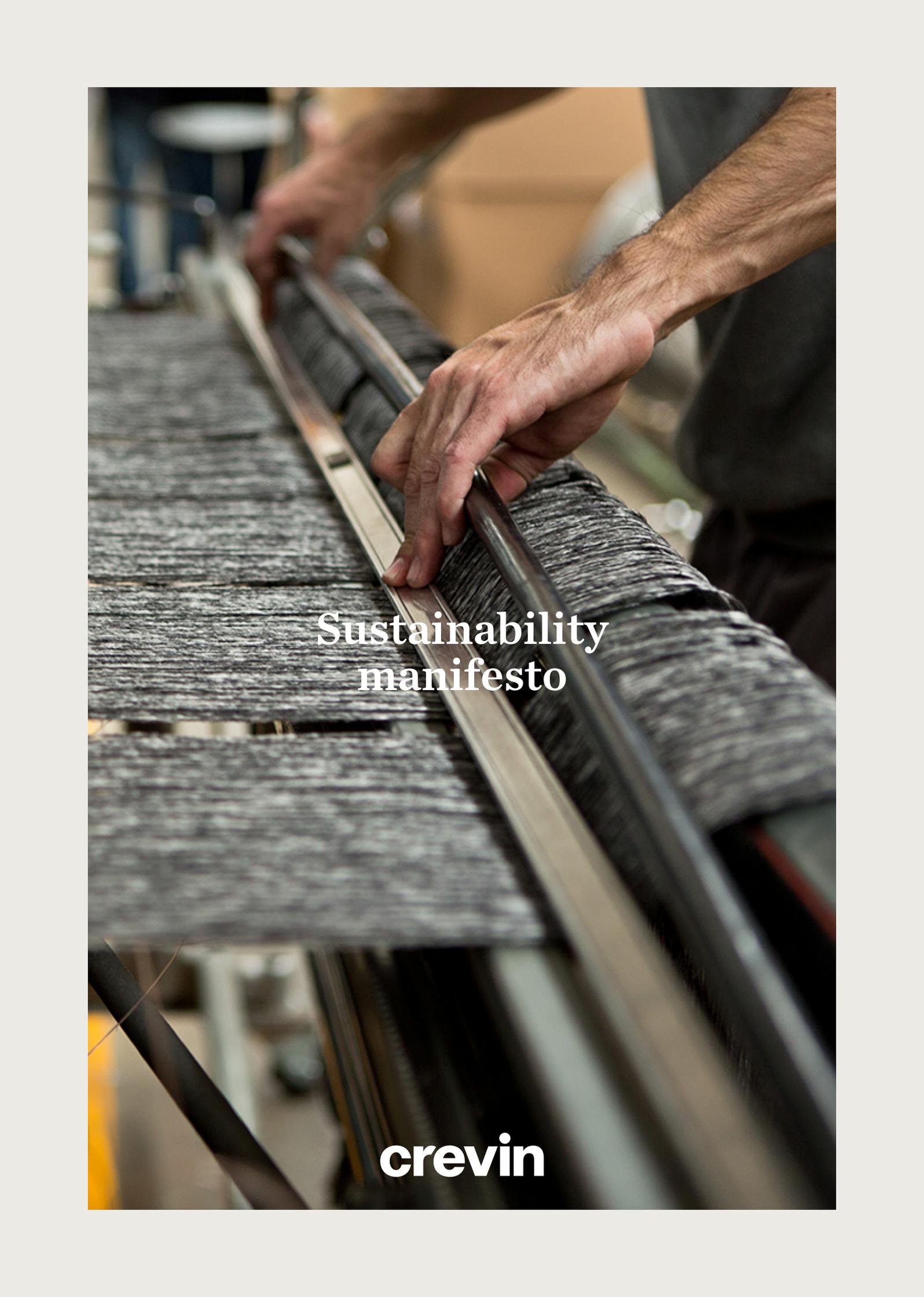
For its fulfilment, within the defined scope of the Management System, the **Senior Management undertakes to:**

- Check **the correct application of this Policy in accordance with the requirements of these international standards** and take the corrective actions necessary to ensure the efficiency of the Management System.
- Ensure that this is appropriate to the **purpose and context of the organization.**
- Study all possible actions for the **continuous improvement** of the Management System by establishing comprehensive periodic **targets**, monitoring the measurement indicators, follow-up, analysis and evaluation, ensuring that the **integrity of the management system** is maintained also when planning and **implementing changes.**
- Promote the **focus on processes** by providing the necessary **resources** to their employees so that they actively collaborate and the **expected results** can be obtained.
- Promote the focus on **clients and stakeholders** throughout the organization, considering the **risks and opportunities** that may affect the **conformity** of products and services provided.

- Meet the **clients' applicable requirements, legal and regulatory**, as well as other commitments that the Organization may subscribe to.
- Include a commitment to protect the environment that optimizes the use of **natural resources**, minimize **environmental impacts** such as pollution and waste that can be generated during its industrial activity and promote **good environmental practices** also for **stakeholders.**
- Include a sustainability strategy in which the **circular economy** and the use of materials with the **least environmental impact** play a leading role.
- Promote the **understanding and dissemination of this policy** within the organization as well as among its collaborators.

Josep Martínez
Director General

September 2021



Sustainability
manifesto

crevin

Keeping our business purposeful

As fabric makers we believe that a fabric can only be beautiful if the processes used to create it preserve the integrity of people and the environment. We design our fabrics with the aim to give them the longest life possible, envisioning generations of passing down that one special piece of upholstered furniture whose value has only grown over time.

Keeping our business transparent

We pursue maximum transparency and traceability by sharing knowledge on how we make our fabrics, how we manage resources and how we recycle and reuse our waste. We intend to simplify the complex idea of sustainability into clear and comprehensible actions to help end-users in making the best buying decisions.

Keeping our business as natural as possible

We believe that a truly sustainable product starts with a design language that is conceived around longevity, resource-friendliness, recycling and zero-waste. Design can only be restorative when it has the natural environment at its core- its waste-freeness and regenerative capacity, as well as its inherent slowness- that helps the human capacity for physical and mental regeneration.

Keeping our business simple and harmonic

We are driven by the motto less is more, which is about simplifying and producing only the needful. Through selective, curative design and a focus on quality instead of quantity, we aim to contribute to a less wasteful, less consuming and more meaningful society that helps people to reflect on their real needs and discover what really matters.

Keeping our business local

By keeping our manufacturing strictly local throughout the 44 years of our existence, our brand value remains inextricably tied to the 150 years old textile legacy of our hometown Terrassa, embodied by the knowhow of three generations of local expert weavers, designers and suppliers, and a timeless sense of Mediterranean style and authenticity.

Keeping our business human

We believe that a truly sustainable product is about the hand that made it, not the machine. It's about purpose, a

product's intimate connection to the place, provenance and people behind its creation- people that are dedicated and related to what they do.

Keeping our business environmentally-friendly

Since 2010 our manufacturing process is certified under ISO 14001, the environmental management system that compiles written principles that maximize resource efficiency and pollution control. In 2014, we implemented a closed-loop recycling process that converts all our textile waste into yarn that is reused for new fabric. In 2019 we obtained the standard 100 by OEKO-TEX, certifying the highest level of product safety in textiles.

Keeping our business in line with the highest recycling targets

We weave our fabrics in solid, two-layered structures, which allows us to make back-weaves out of 100% recycled yarn. Thanks to the technique of double-weaving we are able to adopt between 20 and 50% recycled content into all of our fabrics while maintaining a truly high quality. The recycled materials we use are made from our own textile waste, and a blend of locally sourced, GRS certified yarn from pet bottles and post-consumer cotton straps.

Keeping our business zero-waste

Every year our mill produces tons of textile waste like selvages, yarn ends or straps from cutting. With circularity in mind we collect and sort all our textile waste and send it to a local spinner that turns it into yarn for us. This yarn is reused for our fabrics. In this way every bit of textile waste is absorbed back into our manufacturing process.

Keeping our manifesto simple

We think of sustainability as a natural way of doing things. We commit to creating a design product that is aesthetic, long-lasting and delivered by expertise, low-impact and recycled materials, and a creative and inclusive workplace. We use natural resources sensibly and responsibly while leaving no waste in the process. This is the way we are and what moves us forward.

Download our sustainability statement here:

[Document_Sustainability_Statement.pdf](#)

Designed and crafted
in Terrassa (Barcelona)

www.crevin.com



Zero-waste
fabrics

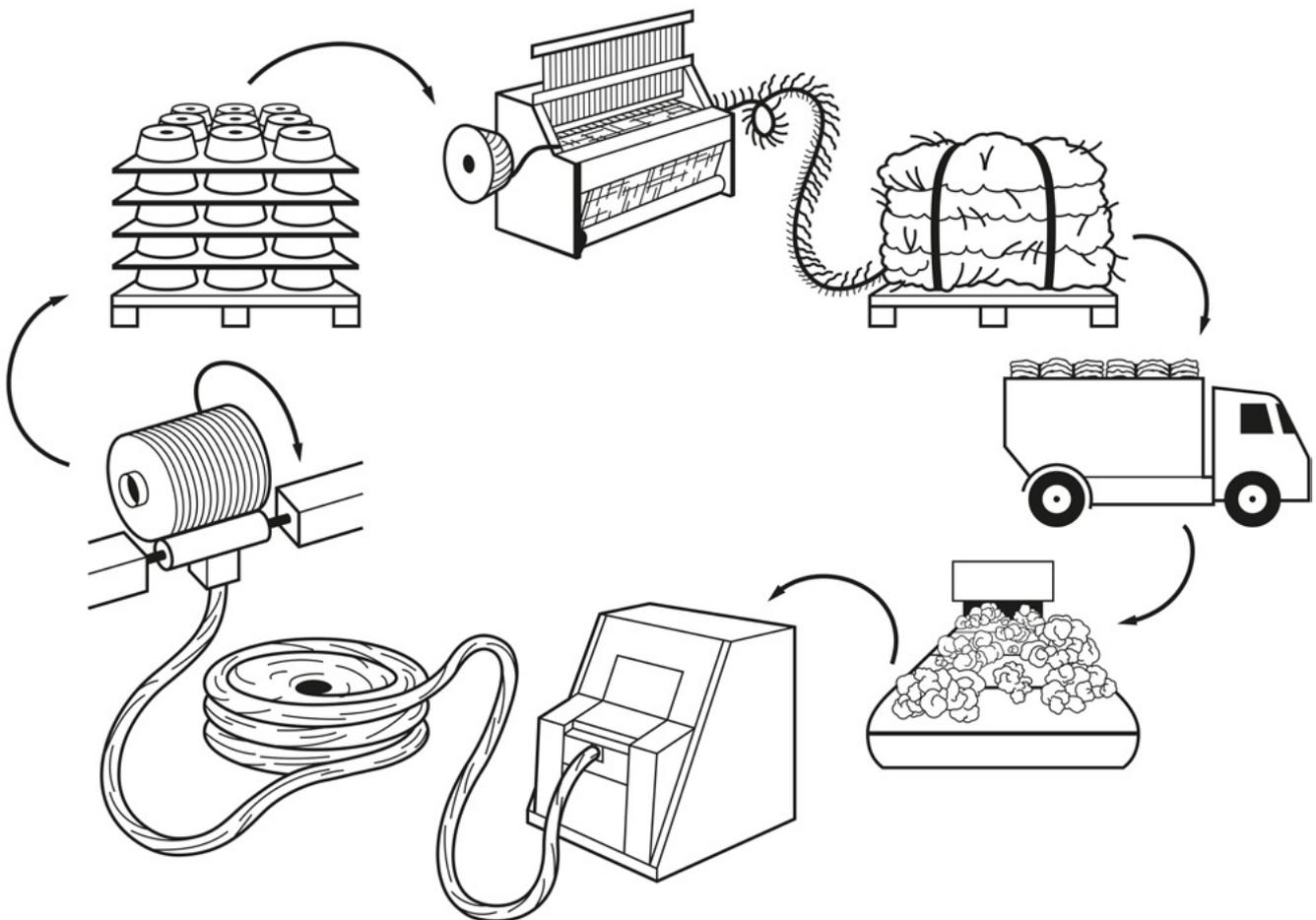
crevin

Every year our mill produces tons of waste through the many processes involved in vertical textile manufacturing. Using a closed loop process, all leftovers are collected and converted into yarn that we reuse for new fabric. In this way no waste is generated.

Every phase of our production process, from design to weaving, knitting, finishing, cutting, quality control and sample making, generates offcuts, yarn leftovers and fabric scraps.

These rest materials are collected by us and sorted by colour, then compressed into large bundles and sent to a local spinner. There the materials are shredded into fibres before they are re-spun into new yarn. During the process no chemicals are used, nor is the recycled fibre mixed with virgin fibre.

Once back at Crevin, the recycled yarn is applied to the back-weaves of new fabric. In this way, every bit of textile waste from our production is given a second life.



Designed and crafted
in Terrassa (Barcelona)

www.crevin.com



05



07



08



11



18



17



10



12



20



26



44



62



21



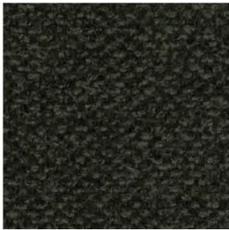
63



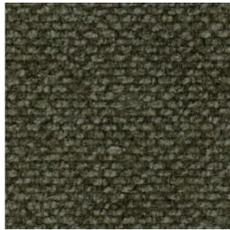
71



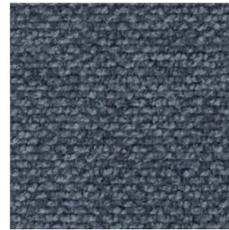
22



38



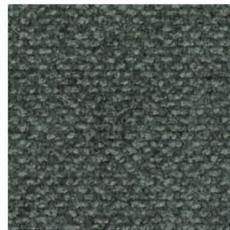
32



49



43



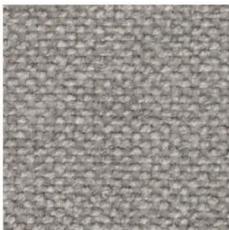
33



35



45



51



54



47



52



53



THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

AENOR has issued an IQNet recognized certificate that the organization:

CREVIN

SEE ADDRESSES SPECIFIED IN ANNEX

has implemented and maintains a

Environmental Management System

for the following scope:

A) The design, development and production management of upholstery and decoration fabrics.

B) Upholstery and decoration fabrics weaving.

C) The dyeing and finishing of upholstery and decoration fabrics.

which fulfills the requirements of the following standard

ISO 14001:2015

First issued on: **2011-01-19** Last issued: **2021-07-06** Validity date: **2023-01-19**

This attestation is directly linked to the IQNet Partner's original certificate and shall not be used as a stand-alone document

Registration Number: ES-2011/0026



Alex Stoichitoiu
President of IQNet

Rafael GARCÍA MEIRO
Chief Executive Officer

AENOR

IQNet Partners*:

AENOR Spain AFNOR Certification France APCER Portugal CCC Cyprus CISQ Italy
CQC China CQM China CQS Czech Republic Cro Cert Croatia DQS Holding GmbH Germany EAGLE Certification Group USA
FCAV Brazil FONDONORMA Venezuela ICONTEC Colombia Inspecta Sertifiointi Oy Finland INTECO Costa Rica
IRAM Argentina JQA Japan KFQ Korea MIRTEC Greece MSZT Hungary Nemko AS Norway NSAI Ireland
NYCE-SIGE México PCBC Poland Quality Austria Austria RR Russia SII Israel SIQ Slovenia
SIRIM QAS International Malaysia SQS Switzerland SRAC Romania TEST St Petersburg Russia TSE Turkey YUQS Serbia

* The list of IQNet partners is valid at the time of issue of this certificate. Updated information is available under www.iqnet-certification.com



THE INTERNATIONAL CERTIFICATION NETWORK

Annex to IQNet Certificate Number ES-2011/0026
CREVIN

CREVIN

A) B) C) PI SANTA MARGARIDA. CL LLOBREGAT, 21.
 08223 - TERRASSA
 (BARCELONA)

CREACIONES DE VELOURS INDUSTRIALES, S.A.

A) PI SANTA MARGARIDA. CL LLOBREGAT, 21.
 08223 - TERRASSA
 (BARCELONA)

VINTEX, S.L.

B) PI SANTA MARGARIDA. CL LLOBREGAT, 21.
 08223 - TERRASSA
 (BARCELONA)

VINCOLOR, S.A.

C) PI SANTA MARGARIDA. CL LLOBREGAT, 25.
 08223 - TERRASSA
 (BARCELONA)

First issued on: 2011-01-19 Last issued: 2021-07-06 Validity date: 2023-01-19

This annex is only valid in connection with the above-mentioned certificate.

Alex Stoichitoiu
President of IQNet

Rafael GARCÍA MEIRO
Chief Executive Officer

AENOR
 Confía



IQNet Partners*:

AENOR Spain AFNOR Certification France APCER Portugal CCC Cyprus CISQ Italy CQC China CQM China CQS Czech Republic
 Cro Cert Croatia DQS Holding GmbH Germany FCAV Brazil FONDONORMA Venezuela ICONTEC Colombia Inspecta Sertifiointi
 Oy Finland INTECO Costa Rica IRAM Argentina JQA Japan KFQ Korea MIRTEC Greece MSZT Hungary Nemko AS Norway
 NSAI Ireland NYCE-SIGE México PCBC Poland Quality Austria Austria RR Russia SII Israel SIQ Slovenia
 SIRIM QAS International Malaysia SQS Switzerland SRAC Romania TEST St Petersburg Russia TSE Turkey YUQS Serbia
 IQNet is represented in the USA by: AFNOR Certification, CISQ, DQS Holding GmbH and NSAI Inc.

* The list of IQNet partners is valid at the time of issue of this certificate. Updated information is available under www.iqnet-certification.com

CERTIFICATE

La empresa

CREVIN,SA
LLOBREGAT, 21
08223 TERRASSA, SPAIN

está autorizada, según el STANDARD 100 by OEKO-TEX® y nuestro informe de ensayo nº. **2021OK0732**, a usar la marca STANDARD 100 by OEKO-TEX®



para los siguientes artículos:

Tejidos de calada y de punto para tapicerías hechos de polipropileno, poliéster, poliéster reciclado, poliéster FR (producido con fibras aceptadas por Oeko-Tex® con propiedades ignífugas), acrílica, modacrílica, algodón, algodón reciclado, lana, lino, viscosa, cáñamo y sus mezclas en crudo y tintadas. Con o sin acabados antimanchas, protección repelente o con productos biocidas aceptados por Oeko-Tex®.

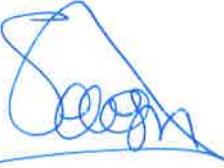
Los resultados de la inspección realizada según el STANDARD 100 by OEKO-TEX®, Apéndice 4, **clase de productos II**, muestran que los artículos mencionados anteriormente cumplen los requisitos ecológico-humanos del STANDARD 100 by OEKO-TEX® actualmente establecidos en el Apéndice 4 para artículos en contacto directo con la piel.

Los artículos certificados cumplen con requisitos del anexo XVII del REACH (incluyendo el uso de colorantes azo, níquel, etc...), así como con los requisitos americanos en cuanto al contenido total de plomo en artículos de niños (CPSIA; con excepción de accesorios hechos de cristal) y del estándar chino GB 18401:2010 (requisito de etiquetado no verificado).

El titular de este certificado se compromete con el instituto, mediante una declaración de conformidad según la norma ISO17050-1, a colocar la etiqueta STANDARD 100 by OEKO-TEX® únicamente en los artículos que se correspondan con las muestras ensayadas. La conformidad se comprueba mediante auditorías.

El certificado 2020OK0217 es válido hasta el 28.02.2022

Alcoy (Alicante) España, 30.03.2021



Silvia Devesa Valencia
Subdirectora Innovación



Isabel Soriano Sarrió
Jefa Área Innovación



CERTIFICATE

The company

CREVIN,SA
LLOBREGAT, 21
08223 TERRASSA, SPAIN

is granted authorisation according to STANDARD 100 by OEKO-TEX® to use the STANDARD 100 by OEKO-TEX® mark, based on our test report **20210K0732**



for the following articles:

Woven and knitted fabrics for upholstery made of polypropylene, polyester, recycled polyester, FR polyester (produced with fibers accepted by Oeko-Tex® having flame retardant properties) acrylic, modacrylic, cotton, recycled cotton, wool, linen, viscose, hemp and their blends in raw and dyed. Finished with or without soil release, repellence protection or with biological active products accepted by Oeko-Tex®.

The results of the inspection made according to STANDARD 100 by OEKO-TEX®, Annex 4, **product class II** have shown that the above mentioned goods meet the human-ecological requirements of the STANDARD 100 by OEKO-TEX® presently established in Annex 4 for products with direct contact to skin.

The certified articles fulfil requirements of Annex XVII of REACH (incl. the use of azo colourants, nickel release, etc.), the American requirement regarding total content of lead in children's articles (CPSIA; with the exception of accessories made from glass) and of the Chinese standard GB 18401:2010 (labelling requirements were not verified).

The holder of the certificate, who has issued a conformity declaration according to ISO 17050-1, is under an obligation to use the STANDARD 100 by OEKO-TEX® mark only in conjunction with products that conform with the sample initially tested. The conformity is verified by audits.

The certificate 20200K0217 is valid until 28.02.2022

Alcoy (Alicante) España, 30.03.2021

Silvia Devesa Valencia
Innovation Assistant Manager



Isabel Soriano Sarrió
Chief of Innovation Area





EU Ecolabel Certificate

**The Ecolabel–Italy Section of the Ecolabel-Ecoaudit Committee
Italian Competent Body for the EU Ecolabel**

by the contract nr. **IT/016/032** valid until 31st December 2025

awarded

Fidivi Tessitura Vergnano S.p.A.

with the user licence of the EU Ecolabel for products listed in the attachment
(product group: **Textile products**)

*Note: the EU Ecolabel Logo may be displayed until 30th June 2026
on stock held by the holder or others and manufactured before 31st December 2025*



Rome, 09/12/2020

The Ecolabel-Italy Section President

Alessandro Zagarella



Products awarded with the EU Ecolabel

owner of the licence: **Fidivi Tessitura Vergnano S.p.A.**

contract nr.: **IT/016/032** valid until 31st December 2025

the EU Ecolabel Logo may be displayed until 30th June 2026 on stock held by the holder or others and manufactured before 31st December 2025

TEXTILE PRODUCTS (IT/016/032)

- Laser N - ROTOLI da 25 a 50 m - TFLSNxxxx140R001
- Relax Bico - ROTOLI da 25 a 50 m - TFRBExxxx140R001
- Incas - ROTOLI da 25 a 50 m - TFINCxxxx140R001
- King Flex - ROTOLI da 25 a 50 m - TFKFLxxxx140TP02
- Laser J Flash - ROTOLI da 25 a 50 m - TFLJFxxxx140TP02
- Jet- ROTOLI da 25 a 50 m - TFJETxxxx140R001
- Jolly - ROTOLI da 25 a 50 m - TFJLYxxxx140R001
- Maya - ROTOLI da 25 a 50 m - TFMYAxxxx140R001
- Relax Flex- ROTOLI da 25 a 50 m - TFRXFxxxx140TP02
- King L - ROTOLI da 25 a 50 m - TFKNOxxxx140TP02
- Laser J - ROTOLI da 25 a 50 m - TFLSJxxxx140TP02
- Roccia - ROTOLI da 25 a 50 m - TFRCAxxxx140TP02
- Fox - ROTOLI da 25 a 50 m - TFFOXxxxx150R001
- Class - ROTOLI da 25 a 50 m - TFC1Nxxxx150R001
- Mini - ROTOLI da 25 a 50 m - TFMNIxxxx140TP02
- Rustico - ROTOLI da 25 a 50 m - TFRSTxxxx140R001
- Garda - ROTOLI da 25 a 50 m - TFGARxxxx140R0001
- King L Kat - ROTOLI da 25 a 50 m - TFKLKxxxx140TP02
- Art. LANGHE - Rotoli H14 - L fino a 50 m - TFLNGXXXX140TP02
- Art. RIVA - Rotoli H14 - L fino a 50 m - TFRVAXXXX140R001
- Corte - Rotoli - TFCTExxxx140R001
- King L Elast - Rotoli - TFKLExxxx150R001
- Iseo - Rotoli - TFISOxxxx140R001



Rome, 09/12/2020

The Ecolabel-Italy Section President
Alessandro Zagarella



Products awarded with the EU Ecolabel

owner of the licence: **Fidivi Tessitura Vergnano S.p.A.**

contract nr.: **IT/016/032** valid until 31st December 2025

the EU Ecolabel Logo may be displayed until 30th June 2026 on stock held by the holder or others and manufactured before 31st December 2025

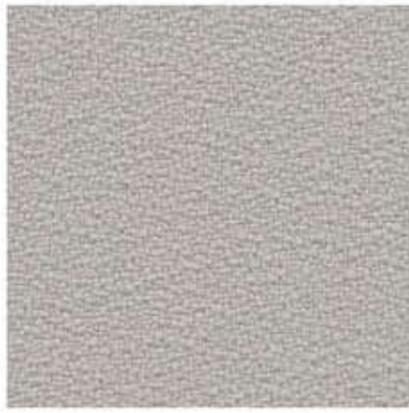
- Matera - Rotoli - TFMATxxxx140R001
- Milano - Rotoli - TFMLNxxxx140R001
- Orta - Rotoli - TFORTxxxx140R001
- Jeans - Rotoli - TFJENxxxx140R001
- Safari - Rotoli - TFSAFxxxx140R001
- Style - Rotoli - TFSTYxxxx140TP02
- Torino - Rotoli - TFTRNxxxx140R001
- Vogue - Rotoli - TFVOGxxxx140TP02



Commissione
europea

Rome, 09/12/2020
The Ecolabel-Italy Section President
Alessandro Zagarella

KING FLEX



2005 *



2031 *



9228



0001 *



1069 *



1006 *



1037



3029



3083 *



4030 *



2023



2003



4066 *



4009



4017 *



3094



4027



4008 *



9244



4020 *



5005



5004 *



8033 *



8010 *



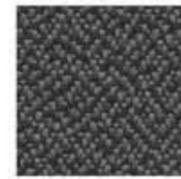
8009



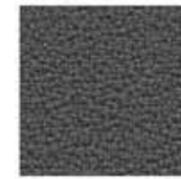
8027



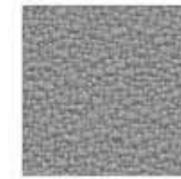
8002 *



9289



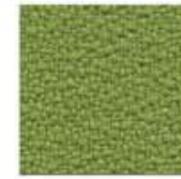
8007 *



8044 *



3030 *



7011 *



7019



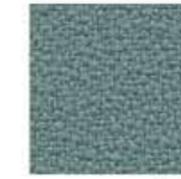
7013



7020 *



7015



6030



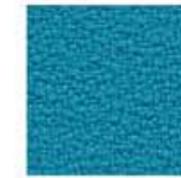
7033



7008



7023 *



6007 *



6031 *



6011



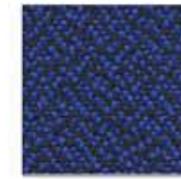
9606



6098 *



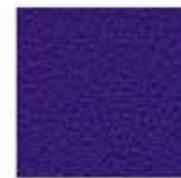
6080 *



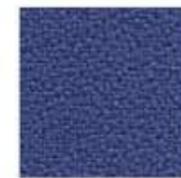
9268



6071



5096



6018 *



6026 *



6005 *

* COLORE DISPONIBILE ANCHE IN ALTEZZA 170 cm.

* COLOR ALSO AVAILABLE IN WIDTH 170 cm.

* COULEUR ÉGALEMENT DISPONIBLE EN LARGEUR 170 cm. * DIESE FARBE IST AUCH IN BREITE 170 cm. VERFÜGBAR

FIDIVI*

TESSITURA VERGNANO

**CARATTERISTICHE PRINCIPALI - PRINCIPAL CHARACTERISTICS
CARACTERISTIQUES PRINCIPALES - HAUPT EIGENSCHAFTEN**

Date 14/01/2015
Edition 04

KING FLEX

Caratteristica Characteristic Caractéristique Charakterdarsteller	Norma Norm Norme Norm	Tolleranza Tolerance Tolérance Toleranz	Dichiarato Declared Déclaré Deklariert
Peso (g/ml) – Weight (g/lm) Poids (g/ml) - Gewicht (g/lm)	EN 12127	± 5 %	420
Peso (g/m ²) - Weight (g/m ²) Poids (g/m ²) - Gewicht (g/m ²)	EN 12127	± 5 %	300
Altezza (cm) - Width (cm) Largeur (cm) - Breite (cm)	-----	± 2 %	140
Resistenza all'abrasione (cicli) Abrasion resistance (rubs) Résistance à l'abrasion (tours) Scheuerfestigkeit (Scheuertouren)	ISO 12947-2 (Martindale)	± 10 %	100000
Solidità del colore alla luce (scala dei blu) Light fastness (blue scale) Solidité à la lumière (échelle des bleu) Lichtechtheit (Blaumaßstabe)	ISO 105-B02 (Xenotest)	da 5 a 8	6
Solidità del colore allo sfregamento (scala dei grigi) Fastness to rubbing (grey scale) Solidité au frottement (échelle des gris) Reibechtheit (Graumaßstabe)	ISO 105-X12 (Crockmeter)	da 4 a 5	4/5
Pilling (2000 cicli) - Pilling (2000 rubs) Pilling (2000 tours) - Pilling (2000 scheuertouren)	ISO 12945-2	da 4 a 5	5
Composizione Composition Composition Zusammensetzung	100% POLIESTERE TREVIRA CS 100% POLYESTER TREVIRA CS 100% POLYESTER TREVIRA CS 100% POLYESTER TREVIRA CS		

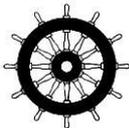
Leggere differenze di colore tra un lotto e l'altro sono da considerarsi normali
Slight colour differences between one lot and another have to be considered within commercial tolerance
Légères différences de couleur entre un lot et l'autre doivent être considérés comme étant normales
Leichte Farbunterschiede sind zwischen zwei Partien als normal zu betrachten

Reazione al fuoco – Flammability - Classement au feu – Feuersicherung

UNI 9174 - 8456 Class C1
UNI 9175 Class 1 IM
DIN 4102 Class B1
NF 92501-7 Class M1
NF D 60013 Class AM18
EN 1021-1 & 2
BS Crib 5
BS 7176 Class Medium Hazard
EN 13773 Class 1
OENORM 3800-1 Class B1,Q1,TR1
California TB117
USA NFPA 701
USA NFPA 260
IMO Part 8 Upholstery

Altri test fuoco possono essere superati, il superamento di alcuni test fuoco può dipendere dalla schiuma utilizzata
Will also pass other flammability standards. Flame retardant performance is dependent upon the foam used
Autres tests feu peuvent être passés. La performance au feu dépend de la mousse utilisée
Wird auch andere Brandschutzstandards erfüllen. Die flammhemmende Leistung ist anhängig von dem verwendeten Schaum

Manutenzione e lavaggio – Cleaning and washing – Nettoyage et lavage – Reinigung und waschen



KING L KAT



2003



2007



1008



1033



1012



1025



3030



3005



3094



3082



4021



4032



4029



7022



7019



6034



6091



6051



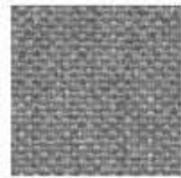
6013



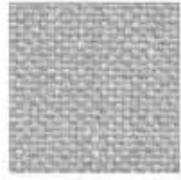
6001



8011



8006



8032



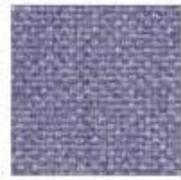
6052



5001



5014



6020

FIDIVI*

TESSITURA VERGNANO

CARATTERISTICHE PRINCIPALI - PRINCIPAL CHARACTERISTICS
 CARACTERISTIQUES PRINCIPALES - HAUPT EIGENSCHAFTEN

Date 31/07/2019
 Edition 03

KING L KAT

Caratteristica Characteristic Caractéristique Charakterdarsteller	Norma Norm Norme Norm	Tolleranza Tolerance Tolérance Toleranz	Dichiarato Declared Déclaré Deklariert
Peso (g/ml) – Weight (g/lm) Poids (g/ml) - Gewicht (g/lm)	EN 12127	± 5 %	390
Peso (g/m ²) - Weight (g/m ²) Poids (g/m ²) - Gewicht (g/m ²)	EN 12127	± 5 %	280
Altezza (cm) - Width (cm) Largeur (cm) - Breite (cm)	-----	± 2 %	140
Resistenza all'abrasione (cicli) Abrasion resistance (rubs) Résistance à l'abrasion (tours) Scheuerfestigkeit (Scheuertouren)	ISO 12947-2 (Martindale)	± 10 %	80000
Solidità del colore alla luce (scala dei blu) Light fastness (blue scale) Solidité à la lumière (échelle des bleu) Lichtechtheit (Blaumaßstabe)	ISO 105-B02 (Xenotest)	da 5 a 8	6
Solidità del colore allo sfregamento (scala dei grigi) Fastness to rubbing (grey scale) Solidité au frottement (échelle des gris) Reibechtheit (Graumaßstabe)	ISO 105-X12 (Crockmeter)	da 4 a 5	4/5
Pilling (2000 cicli) - Pilling (2000 rubs) Pilling (2000 tours) - Pilling (2000 scheuertouren)	ISO 12945-2	da 4 a 5	5
Valore camera riverberante (α _w) Reverberating chamber value (α _w) Valeur de la chambre réverbérante (α _w) Nachhallkammerwert (α _w)	ISO 354	da 0,5 a 0,7	0,6
Composizione Composition Composition Zusammensetzung	100% POLIESTERE Trade Mark TREVIRA CS 100% POLYESTER Trade Mark TREVIRA CS 100% POLYESTER Trade Mark TREVIRA CS 100% POLYESTER Trade Mark TREVIRA CS		

Leggere differenze di colore tra un lotto e l'altro sono da considerarsi normali

Slight colour differences between one lot and another have to be considered within commercial tolerance

Légères différences de couleur entre un lot et l'autre doivent être considérés comme étant normales

Leichte Farbunterschiede sind zwischen zwei Partien als normal zu betrachten

Reazione al fuoco – Flammability - Classement au feu – Feuersicherung

UNI 9174 - 8456 Class C1
 UNI 9175 Class 1 IM
 DIN 4102 Class B1
 NF 92501-7 Class M1
 NF D 60013 Class AM18
 EN 1021-1 & 2
 BS Crib 5
 BS 7176 Class Medium Hazard
 EN 13773 Class 1
 OENORM 3800-1 Class B1,Q1,TR1
 California TB117
 USA NFPA 701
 USA NFPA 260
 IMO Part 8 Upholstery

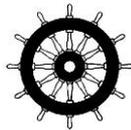
Altri test fuoco possono essere superati, il superamento di alcuni test fuoco può dipendere dalla schiuma utilizzata

Will also pass other flammability standards. Flame retardant performance is dependent upon the foam used

Autres tests feu peuvent être passés. La performance au feu dépend de la mousse utilisée

Wird auch andere Brandschutzstandards erfüllen. Die flammhemmende Leistung ist anhängig von dem verwendeten Schaum

Manutenzione e lavaggio – Cleaning and washing – Nettoyage et lavage – Reinigung und waschen



CERTIFICATE

The company

Fidivi Tessitura Vergnano S.p.A.
Regione Masio 19/bis
10046 Poirino TO, ITALY

is granted authorisation according to STANDARD 100 by OEKO-TEX® to use the STANDARD 100 by OEKO-TEX® mark, based on our test report **21RA11529**

OEKO-TEX®
CONFIDENCE IN TEXTILES
STANDARD 100



073313.O CENTROCOT

Tested for harmful substances
www.oeko-tex.com/standard100



for the following articles:

Fabrics made of polyester (Trevira® CS, Trevira® CS Bioactive) yarn dyed or piece dyed with disperse dyes; fabrics made of wool and wool/polyamide, dyed with acid and metal-complex dyes; fabrics made of polyester outdoor mass dyed; fabrics made of flocked polyester/polyamide, in different colours. Raw materials partly certified STANDARD 100 by OEKO-TEX® - Partly produced with fibres accepted by OEKO-TEX® having flame retardant and biological active properties.

The results of the inspection made according to STANDARD 100 by OEKO-TEX®, Annex 4, **product class II** have shown that the above mentioned goods meet the human-ecological requirements of the STANDARD 100 by OEKO-TEX® presently established in Annex 4 for products with direct contact to skin.

The certified articles fulfil requirements of Annex XVII of REACH (incl. the use of azo colourants, nickel release, etc.), the American requirement regarding total content of lead in children's articles (CPSIA; with the exception of accessories made from glass) and of the Chinese standard GB 18401:2010 (labelling requirements were not verified).

The holder of the certificate, who has issued a conformity declaration according to ISO 17050-1, is under an obligation to use the STANDARD 100 by OEKO-TEX® mark only in conjunction with products that conform with the sample initially tested. The conformity is verified by audits.

The certificate 073313.0 is valid until 11.09.2022

Busto Arsizio, 28.09.2021

Chiara Salmoiraghi

Chiara Salmoiraghi
OEKO-TEX® Product Certification Scheme Manager



CERTIFICATE

The company

Fidivi Tessitura Vergnano S.p.A.
Regione Masio 19/bis
10046 Poirino TO, ITALY

is granted authorisation according to STANDARD 100 by OEKO-TEX® to use the STANDARD 100 by OEKO-TEX® mark, based on our test report **21RA12896**

OEKO-TEX®
CONFIDENCE IN TEXTILES
STANDARD 100



21CX00147 CENTROCOT

Tested for harmful substances
www.oeko-tex.com/standard100



for the following articles:

Fabrics made of 100% recycled polyester (from post-consumer bottles) dyed with disperse dyes or 100% recycled polyamide (from post-consumer material) dyed with acid/metal-complex dyes and their blends. Raw materials and dyeing processes partly pre-certified according to STANDARD 100 by OEKO-TEX®.

The results of the inspection made according to STANDARD 100 by OEKO-TEX®, Annex 4, **product class II** have shown that the above mentioned goods meet the human-ecological requirements of the STANDARD 100 by OEKO-TEX® presently established in Annex 4 for products with direct contact to skin.

The certified articles fulfil requirements of Annex XVII of REACH (incl. the use of azo colourants, nickel release, etc.), the American requirement regarding total content of lead in children's articles (CPSIA; with the exception of accessories made from glass) and of the Chinese standard GB 18401:2010 (labelling requirements were not verified).

The holder of the certificate, who has issued a conformity declaration according to ISO 17050-1, is under an obligation to use the STANDARD 100 by OEKO-TEX® mark only in conjunction with products that conform with the sample initially tested. The conformity is verified by audits.

The certificate 21CX00147 is valid until 20.10.2022

Busto Arsizio, 20.10.2021

Chiara Salmoiraghi

Chiara Salmoiraghi
OEKO-TEX® Product Certification Scheme Manager





FSC® CHAIN OF CUSTODY CERTIFICATE

Certificate no.:
DNV-COC-000369
Issue Number:
6

Initial certification date:
17 March 2011

Valid:
16 March 2022 – 15 March 2027

The validity of this certificate shall be verified on <https://info.fsc.org/>

This is to certify that the

ARES LINE S.p.A.

Via Brenta, 7 - Z.I. - 36010 Carre' (VI) - Italy

has been found to conform to FSC standard:

FSC-STD-40-004

This certificate is valid for the following scope:

Manufacture and trading of seats, acoustic panels and other furniture for office, waiting and community (FSC 100% and FSC Mix - transfer system).

A list of the certificated products can be obtained from the FSC database, <https://info.fsc.org/>

This certificate itself does not constitute evidence that a particular product supplied by the certificate holder is FSC-certified (or FSC Controlled Wood). Products offered, shipped or sold by the certificate holder can only be considered covered by the scope of this certificate when the required FSC claim is clearly stated on invoices and shipping documents.

Place and date:
Solna, 03 March 2022

For the issuing office:
DNV - Business Assurance
Elektrogatan 10, 171 54, Solna, Sweden



Ann-Louise Pätt
Management Representative

Lack of fulfilment of conditions as set out in the Certification Agreement may render this Certificate invalid. This certificate is the property of DNV GL Business Assurance Sweden AB and must be returned on request

ACCREDITED UNIT: DNV Business Assurance Sweden AB, Box 6046, 171 06 Solna, Sweden - TEL: +46 8 587 940 00. www.dnv.com/se

Certificato di Registrazione

Registration Certificate



EMAS

ARES LINE S.p.A.

*Via Brenta, 7 - Zona Industriale
36010 Carrè (VI)*

N. Registrazione:

Registration Number

IT-001625

Data di registrazione:

Registration date

11 giugno 2014

FABBRICAZIONE DI MOBILI PER UFFICI E NEGOZI

MANUFACTURE OF OFFICE AND SHOP FURNITURE

NACE: 31.01

Questa Organizzazione ha adottato un sistema di gestione ambientale conforme al Regolamento EMAS allo scopo di attuare il miglioramento continuo delle proprie prestazioni ambientali e di pubblicare una dichiarazione ambientale. Il sistema di gestione ambientale è stato verificato e la dichiarazione ambientale è stata convalidata da un verificatore ambientale accreditato. L'organizzazione è stata registrata secondo lo schema EMAS e pertanto è autorizzata a utilizzare il relativo logo. Il presente certificato ha validità soltanto se l'organizzazione risulta inserita nell'elenco nazionale delle organizzazioni registrate EMAS.

This Organisation has established an environmental management system according to EMAS Regulation in order to promote the continuous improvement of its environmental performance and to publish an environmental statement. The environmental management system has been verified and the environmental statement has been validated by a accredited environmental verifier. The Organization is registered under EMAS and therefore is entitled to use the EMAS Logo. This certificate is valid only if the Organization is listed into the national EMAS Register.

Roma,
Rome,

01 ottobre 2019

Certificato valido fino al:

Expiry date

10 maggio 2022

Comitato Ecolabel - Ecoaudit

Il Presidente

Dott. Riccardo Rifici

From:

Sent: lunedì 23 maggio 2022 13:52

To: Miele, Nunzia

Cc: emas

Subject: Re: Richiesta proroga per la presentazione del rinnovo dati relativo alla organizzazione ARES LINE S.p.A.

Buongiorno,

ai sensi della "Lettera Circolare in recepimento delle indicazioni della Commissione Europea del 26 marzo 2020 - emergenza COVID-19 del 07 aprile 2020", **il certificato IT-001625 sarà prorogato al 23/08/2022**

La riemissione del Certificato con la nuova data di scadenza sarà deliberata nella prima riunione utile di Comitato.

Un cordiale saluto
La Sezione EMAS

Da: "Nunzia Miele"

A: "comitato emas"

Inviato: Lunedì, 23 maggio 2022 12:21:18

Oggetto: Richiesta proroga per la presentazione del rinnovo dati relativo alla organizzazione ARES LINE S.p.A.

Spettabile Comitato Emas,

in accordo a quanto previsto dalla vostra circolare del 07 aprile 2020 in recepimento delle indicazioni della Commissione Europea del 26 Marzo 2020- Emergenza Covid e ai sensi della posizione del Comitato per l'Ecolabel e per l'Ecoaudit sulla richiesta di proroghe dei termini per la presentazione degli aggiornamenti e rinnovi della D.A, sono a richiedere:

una proroga di 3 mesi per la presentazione dell'aggiornamento dati annuale della Dichiarazione Ambientale della organizzazione ARES LINE S.p.A registrata con numero IT-001625 avente scadenza 10/05/2022.

Le nostre attività in campo si stanno concludendo in data odierna.

Mi scuso per il ritardo nella comunicazione.

Cordiali saluti

Nunzia Miele

Environmental Schemes Manager

Technical & Operational Performance

DNV Business Assurance Italy S.r.l.

/Vertimas iš italų kalbos į lietuvių kalbą/

Nuo:

Išsiųsta: 2022 m. gegužės 23 d., pirmadienį, 13:52

Kam: Miele, Nunzia

Cc: emas

Tema: Ats: Prašymas pratęsti duomenų, susijusių su ARES LINE SpA organizacija, pateikimo terminą

Labas rytas

vadovaujantis „Aplinkraščiu dėl Europos Komisijos 2020 m. kovo 26 d. nurodymų perkėlimo į nacionalinę teisę – 2020 m. balandžio 7 d. ekstremaliosios situacijos dėl COVID-19 aplinkybių perkėlimo į nacionalinę teisę“ **IT-001/2020** **15 sertifikatas protestas iki 2022 m. rugpjūčio 23 d.** Sertifikato išdavimas su nauja galiojimo data bus išspręstas artimiausiame Komiteto posėdyje.

Su nuoširdžiais linkėjimais

EMAS skyrius

Nuo: "Nunzia Miele"

Kam: "emas komitetas"

Išsiųsta: 2022 m. gegužės 23 d., pirmadienį, 12:21:18

Tema: Prašymas pratęsti su ARES LINE SpA organizacija susijusių duomenų atnaujinimo pateikimą

Gerbiamas EMAS komitete,

vadovaudamasi Jūsų 2020 m. balandžio 07 d. aplinkraščio nuostatomis dėl 2020 m. kovo 26 d. Europos Komisijos nurodymų perkėlimo į Nacionalinę teisę – nepaprastosios padėties dėl Covid, ir atsižvelgdama į Ekologinio ženklo ir ekologinio audito komiteto poziciją dėl Vykdančiojo Direktorius prašymų pratęsti sertifikato atnaujinimo ir atnaujintos informacijos pateikimo terminus, turiu paprašyti:

3 mėnesiams pratęsti organizacijos ARES LINE S.p.A aplinkos deklaracijos metinio duomenų atnaujinimo, registruotos numeriu IT-001625, kurios galiojimas baigiasi 10/05/2022, pristatymą.

Mūsų veikla susijusi su šiuo procesu eina į pabaigą.

Atsiprašau už vėlavimą bendrauti.

Geriausi linkėjimai

Nunzia Miele

Aplinkosaugos sistemų vadybininkė

Techninis ir eksploatacinis našumas

DNV Business Assurance Italy S.r.l.



2022-05-26

Vilnius, Lietuva

Aš, vertėjas Darius Navickas, dirbantis pagal individualios veiklos pažymėjimą

tvirtinu šio

dokumento vertimo iš italų kalbos į lietuvių kalbą tikslumą ir autentiškumą, bei prisiimu atsakomybę, jei teksto vertimas iškreipia dokumento prasmę(-es).

--

Io, il traduttore Darius Navickas, lavoro con certificato di lavoro autonomo

con la presente certifico che la traduzione di questo documento dalla lingua italiana alla lingua lituana e stata eseguita al meglio per quanta ne so e mi assumo la responsabilita in caso di traduzione errata se distorce il significato previsto di ii documento.

Vertėjas/traduttore,

2022-05-26

Darius Navickas

BOMBARDIER

Title:

Marking of Plastics, Rubbers and Thermoplastic Elastomers

Scope:

This document is applicable to all divisions of Bombardier Transportation.

Purpose / Summary:

Bombardier Transportation is committed to mark polymeric components weighing in excess of 100 grams in line with ISO 11469 and associated standards. This ensures that the polymeric components can be efficiently identified, separated and processed for recycling at end-of-life.

The purpose of this document is to define an efficient method for marking components manufactured from polymeric materials; i.e. plastics, rubbers and thermoplastic elastomers. Therefore, a concise summary of the ISO standards within this area is provided along with a broad range of supporting examples.

This document is relevant for components that are newly designed, or are in the process of being designed, as well as existing components that are undergoing a design change. In addition, those component(s) that do not currently incorporate a marking, should be modified to incorporate such a marking prior to commencement of any further manufacturing runs.

Note: This document does not replace the standards referenced herein, which should be referred to for further guidance where required.

The table of contents is on page two of this document.

Responsible unit: GRP	Process owner: HSE and Engineering	Document type: Standard	Confidentiality status : Internal	Original Language : En
This document and its contents are the property of Bombardier Inc. or its subsidiaries. This document contains confidential proprietary information. The reproduction, distribution, utilisation or the communication of this document or any part thereof, without express authorisation is strictly prohibited. Offenders will be held liable for the payment of damages. © 2010 Bombardier Inc. or its subsidiaries. All rights reserved			Organization and BTIP process structure prefix : GRP-20-20-05-	Revision : 1
			Doc ID-number : 000018	Document state : released

Table of Contents

Section	Subject	Page
1	Description	3
1.1	Introduction to the marking of plastics, rubbers and thermoplastic elastomers	3
1.2	Implementation	3
1.2.1	Determining the correct marking	3
1.2.2	Physical method of marking	9
1.2.3	Appearance and position of the marking	9
1.3	Abbreviated terms and symbols	9
1.3.1	Symbols for commonly used plastics	10
1.3.2	Symbols for special characteristics	10
1.3.3	Symbols for commonly used rubbers	11
1.3.4	Symbols for commonly used thermoplastic elastomers	12
1.3.5	Symbols for commonly used fillers and reinforcing materials	13
1.3.6	Symbols for commonly used plasticizers	14
1.3.7	Symbols for commonly used flame retardants	15
2	Definitions and Abbreviations	16
3	Reference documents	17
4	Approval Information	17
5	Revision Log	17

1 Description

Bombardier Transportation is committed to mark polymeric components weighing in excess of 100 grams in line with ISO 11469 and associated standards. This ensures that the polymeric components can be efficiently identified, separated and processed for recycling at end-of-life.

This commitment reflects the End-of-Life Vehicles (ELV) directive (2000/53/EC) and the supporting decision (2003/138/EC) for all plastic components and materials weighing in excess of 100 grams, to be marked. The ELV directive aims to prevent waste from vehicles at end-of-life and divert materials and components for reuse, recycling or energy recovery. Although the ELV directive does not currently apply to rail vehicles, through voluntarily meeting the marking requirements, the Company is able to proactively prepare for future legislation whilst also maintaining the attractiveness of rail travel in relation to other transport modes.

The purpose of this document therefore is to define an efficient method for marking components manufactured from polymeric materials; i.e. plastics, rubbers and thermoplastic elastomers. A concise summary of the ISO standards within this area is provided along with a broad range of supporting examples.

In instances where there is size, geometric, cosmetic or functional restraints, which make the inclusion of a marking difficult or impossible, refer to the DfE EBoK (accessed via Bombardier ExpressNet) for examples of markings and lessons learned. Alternatively contact the project DfE Engineer who will be able to provide advice on the most appropriate course of action.

Where reasonably practicable, it is encouraged that components weighing less than 100 grams be also marked (although this is not compulsory).

1.1 Introduction to the marking of plastics, rubbers and thermoplastic elastomers

The marking of components manufactured from plastics, rubbers and thermoplastic elastomers is one aspect of the Design for Environment (DfE) process, which aims to minimize the environmental impact of Bombardier Transportation's products, in line with customer and end-user expectations.

In order to maximize the intrinsic value of these materials, they must be easily identified and then separated at end-of-life according to their material type and chemical structure. Attempting to recycle poorly separated polymer or rubber materials at end-of-life will result in a poor quality material, which has low or zero monetary worth and properties that make it suitable for only the most undemanding of applications.

Through ensuring that materials are properly separated prior to recycling, the mechanical and aesthetic properties of the resulting recycled material can be maximized, thus dramatically increasing the value and suitability of the recycled material for future applications. This is best achieved through providing a clear marking on the surface of the plastic or rubber component in line with ISO 11469 and associated standards. To identify all of the various plastics, rubbers and thermoplastic elastomers without the aid of markings would be prohibitively cost intensive and therefore must be avoided.

1.2 Implementation

1.2.1 Determining the correct marking

Components manufactured from plastics, rubbers and thermoplastic elastomers are to be marked in accordance with the guidelines contained in ISO 11469 and the standards listed in Table 1, below:

Component	Type	ISO Reference
Base material(s)	Plastics	ISO 1043 part 1
	Rubbers	ISO 1629
	Thermoplastic elastomers	ISO 18064
Fillers and reinforcing materials		ISO 1043 part 2
Plasticizers		ISO 1043 part 3
Flame retardants		ISO 1043 part 4

Table 1: ISO standards

In many instances, plastics, rubbers and thermoplastic elastomers may contain additives such as fillers, plasticizers and flame retardants. Therefore, the correct marking may consist of abbreviated terms for the base material(s) plus symbols for the additives described above. As indicated in Table 1, the base material is to be marked according to abbreviated terms given in ISO 1043 part 1 (if it is a plastic), ISO 1629 (if it is a rubber) and ISO 18064 (if it is a thermoplastic elastomer). Parts 2, 3 and 4 of ISO 1043 provide symbols for fillers, plasticizers and flame retardants for polymeric materials. These three parts of the ISO 1043 plastic marking standard also apply to rubbers and thermoplastic elastomers.

In order to efficiently determine the correct marking it is recommended that the step-by-step approach shown in Figure 1 be followed in conjunction with the steps included in Table 2.

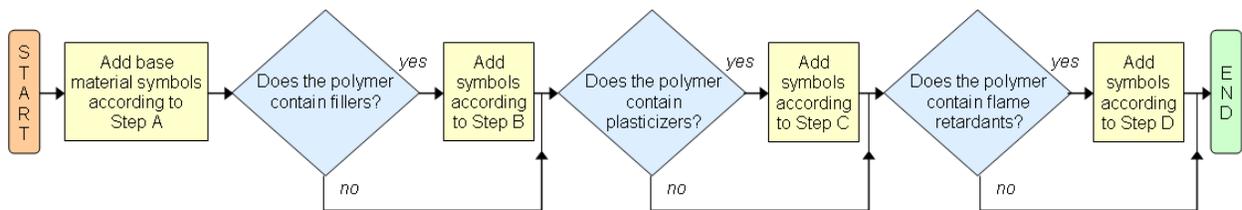


Figure 1: Steps to marking plastics, rubbers and thermoplastic elastomers

The marking for a polymer that contains fillers, plasticizers and flame retardants will look something like the following:

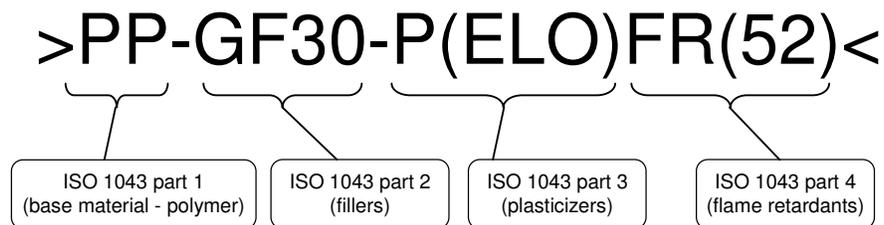


Figure 2: Example marking

In all instances, the letters and numbers representing the plastics, rubbers and thermoplastic elastomers are to be placed in-between “>” and “<” as indicated above.

Table 2, below, provides a concise and thorough explanation of how to correctly mark components. Definitions of polymer terms are given in Section 2. Refer to Section 1.3 or the referenced ISO standard for symbols of the most commonly used plastics, rubbers, thermoplastic elastomers and additives.

ID	Description	Example	Table Ref.	ISO Ref.
Step A – Base material (plastic)				
A1	<p><u>Single-constituent plastics</u></p> <p>For components made from a single polymer (i.e. homopolymer or copolymer) the marking would be the abbreviated term for the polymer enclosed by > and <. The most common homopolymers and copolymers are listed in Table 3.</p> <p>As seen in the third example, a stroke “/” may be used to designate a copolymer when its omission would be confusing.</p> <p><i>Note: once you have your symbol, check whether any of the below items apply; for example do you need to add any further symbols for special characteristics? (See ID A3).</i></p>	<p><u>Example:</u> Polycarbonate (a homopolymer)</p> <p>>PC<</p> <p><u>Example:</u> Acrylonitrile-butadiene-styrene polymer (a copolymer)</p> <p>>ABS<</p> <p><u>Example:</u> Copolymer of PA6 and PA12</p> <p>>PA6/12<</p>	Table 3	ISO 11469; ISO 1043 part 1
A2	<p><u>Multiple-constituent plastics (polymer blends)</u></p> <p>If a mixture (blend or alloy) of polymers is used, the abbreviated terms for the different polymers would be separated by a “+”, with the main component in first place. This would then be followed by the other components in the order of their decreasing mass fractions.</p>	<p><u>Example:</u> A blend of polycarbonate and poly(butylene terephthalate), in which the polycarbonate is the main polymer</p> <p>>PC+PBT<</p> <p><i>Note: there should be no space before or after the “+” sign.</i></p>	Table 3	ISO 11469; ISO 1043 part 1
A3	<p><u>Special characteristics in polymers</u></p> <p>Up to four letters can be added to the abbreviated term for the base polymer in order to differentiate between different modifications of the polymer. The supplementary symbol(s) would be placed after the abbreviated term of the base polymer, separated by a hyphen “-”, with no spacing before or after the hyphen.</p>	<p><u>Example:</u> High Density Polyethylene</p> <p>>PE-HD<</p> <p><i>Note: No symbol should be placed in front of the abbreviated term for the base polymer. Hence >PE-HD< is preferred to >HDPE<.</i></p>	Table 4	ISO 1043, part 1

ID	Description	Example	Table Ref.	ISO Ref.
A4	<p><u>Two or more components, which are difficult to separate (such as laminates)</u></p> <p>Products that comprise of two or more components, some of which are not readily visible, should preferably be marked so that the primary visible material is identified first, followed by the identification of the other material(s), with the individual materials separated by a comma. Underlining is used to identify the main component by mass.</p> <p><i>Note: Parts that consist of glued or welded components made of different plastics, rubbers and thermoplastic elastomers are to be marked on each component according to the material used.</i></p>	<p><u>Example:</u> A product made of three components, where the visible one is a thin coating of poly(vinyl chloride) over polyurethane containing an insert of acrylonitrile-butadiene-styrene, which is the major component by mass</p> <p>>PVC,PUR,<u>ABS</u><</p>	N/A	ISO 11469
Step A – Base material (rubber)				
A5	<p><u>Single-constituent rubbers</u></p> <p>For components made from a single rubber, the marking should be the abbreviated term for the rubber (see Table 5), enclosed by > and <.</p>	<p><u>Example:</u> Butadiene rubber</p> <p>>BR<</p>	Table 5	ISO 11469; ISO 1629
Step A – Base material (thermoplastic elastomer)				
A6	<p><u>Single-constituent thermoplastic elastomers</u></p> <p>The prefix “TP” is to be followed by a letter representing the appropriate category of the thermoplastic elastomer (see Table 6). This is to be followed by a hyphen, followed by the symbols describing the specific member of the category (see Table 6).</p>	<p><u>Example:</u> A urethane thermoplastic elastomer, of type aromatic hard segment, polyester soft segment</p> <p>>TPU-ARES<</p>	Table 6	ISO 18064
A7	<p><u>Thermoplastic elastomer blends of polymers and rubbers</u></p> <p>Some types of thermoplastic elastomers are a blend of a thermoplastic material and a conventional rubber.</p> <p>For these, the group name of the thermoplastic elastomer (see Table 6) should first be followed by a hyphen “-“. This should then be followed by parentheses (curved brackets), which accommodate the standard abbreviation for the rubber type (see Table 5), a “+” sign and the standard abbreviation for the thermoplastic type (see Table 3).</p>	<p><u>Example:</u> Blend of ethylene-propylene-diene terpolymer with polypropylene, with no or little crosslinking of the EPDM phase, the amount of EPDM present being greater than that of PP</p> <p>TPO-(EPDM+PP)</p>	Table 6	ISO 18064

ID	Description	Example	Table Ref.	ISO Ref.
	<p><i>Note: The thermoplastic and the rubber type should be listed in decreasing order of abundance in the thermoplastic elastomer.</i></p>			
Step B – Fillers and reinforcing materials				
B1	<p><u>Compositions containing a single filler or reinforcing material</u></p> <p>Compositions containing a single filler or reinforcing material should be marked with the abbreviated term for the polymer, followed by a hyphen “-”, then the abbreviated term or symbol for the additive (see Table 7), with its percent by mass, arranged as shown in the example.</p> <p>Note: The symbol for a filler comprises of two parts:</p> <ol style="list-style-type: none"> 1) The symbol for the filler / reinforcing material. 2) The symbol for the form or structure of the filler / reinforcing material. <p>Example: GF is the symbol for glass in the form of fibre.</p>	<p><u>Example:</u> Polypropylene containing 30% by mass of mineral powder</p> <p>>PP-MD30<</p>	Table 7	ISO 11469; ISO 1043 part 2
B2	<p><u>Compositions containing two or more fillers or reinforcing materials</u></p> <p>For compositions containing a mixture of fillers or reinforcing materials, the marking to show the presence of these additives should be between parentheses (curved brackets).</p>	<p><u>Example:</u> Polypropylene containing a mixture of 25% by mass of fibreglass and 15% by mass of mineral powder</p> <p>>PP-(GF25+MD15)<</p> <p><i>Note: there should be no space before or after the “+” sign.</i></p>	Table 7	ISO 11469; ISO 1043 part 2
B3	<p><u>Compositions containing metallic fillers</u></p> <p>The further information required for metals should be indicated by the chemical symbol in parenthesis (curved brackets). Refer to ISO 1043 part 2 for more details.</p> <p>For example, MD(Al) is the symbol for aluminium powder.</p>	<p><u>Example:</u> Polypropylene containing 30% by mass of aluminium powder.</p> <p>>PP-MD(Al)30<</p> <p><i>Note: only capital letters are to be used except for chemical symbols.</i></p>	N/A	ISO 1043 part 2

ID	Description	Example	Table Ref.	ISO Ref.
Step C - Plasticizers				
C1	<p><u>Compositions containing plasticizers</u></p> <p>Compositions containing plasticizers are to be marked with the abbreviated term for the polymer followed by a hyphen, then the symbol "P" followed by the abbreviated term of the plasticizer in parentheses (curved brackets), as given in Table 8.</p>	<p><u>Example:</u> PVC containing Epoxidized Linseed Oil as plasticizer</p> <p>>PVC-P(ELO)<</p>	Table 8	ISO 1043 part 3
Step D – Flame Retardants				
D1	<p><u>Compositions containing flame retardants</u></p> <p>Compositions containing flame retardants are to be marked with the abbreviated term for the polymer followed by a hyphen, then the symbol "FR" followed by the code number of the flame retardant in parentheses (curved brackets), as given in Table 9.</p> <p><i>Note: All plastics containing flame retardants that have been intentionally added or that exceed 1% by weight must include the flame retardant code.</i></p>	<p><u>Example 1:</u> Polypropylene with red phosphorus as a flame retardant</p> <p>>PP-FR(52)<</p> <p><u>Example 2:</u> Polyamide 66 containing a mixture of 15% by mass of mineral powder and 25% by mass of glass fibre and, additionally, red phosphorus (52) as a flame retardant</p> <p>>PA66-(GF25+MD15)FR(52)<</p>	Table 9	ISO 1043 part 4

Table 2: Marking of plastics, rubbers and thermoplastic elastomers

1.2.2 Physical method of marking

ISO 11469 states that markings are to be made by one of the following methods:

- During moulding by having the appropriate symbol included in the mould design.
- By embossing, by melt imprinting or by other legible and indelible marking of the polymer.

Bombardier's preferred method of marking polymers is to integrate a relief into the mould, so that the component has a clear, consistent and indelible marking on the surface of the part. In instances where this is not possible, such as for extruded components and where adding such a relief into the tool would be impossible, an alternative method of marking is to be employed. Refer to the DfE EBoK for examples of markings and lessons learned. Alternatively contact the project DfE Engineer for guidance if required.

1.2.3 Appearance and position of the marking

The appearance and position of the marking is to be in-keeping with the following guidelines:

- The recommendations in ISO 11469 and referenced standards, regarding marking method and structure, are to be followed. These have been summarised in Sections 1.2.1 and 1.2.2.
- It is recommended that the height of the text be between 2.5 and 25 mm. On smaller parts where the inclusion of this size text is not possible, it is permissible to use smaller text sizes. However, all instances of this should be recorded and communicated to the project DfE Engineer.
- The font Helvetica is to be used.
- Capital letters must be used for symbols and abbreviated terms; the only exception to this being for chemical symbols for metallic fillers (example: Al for aluminium).
- The marking should be indelible and remain legible during the entire life of the component.
- The appearance and function of the component or product must not be impaired by the marking.
- The marking code, location, size, and physical process of marking should be specified on the associated technical drawing for the component.

1.3 Abbreviated terms and symbols

This section includes condensed versions of the tables provided in ISO 1043 (plastics), ISO 1629 (rubbers) and ISO 18064 (thermoplastic elastomers). The most commonly used abbreviated terms and symbols are therefore presented. For a complete list of symbols, refer to the aforementioned standards.

1.3.1 Symbols for commonly used plastics

Table 3 presents a compilation of the most commonly used plastics and their respective symbols, in accordance with ISO 1043 part 1. For a complete list, or to determine how to build a new symbol, refer to ISO 1043 part 1.

Symbol	Description
ABS	acrylonitrile-butadiene-styrene
EP	epoxide; epoxy resin or plastic
E/P	ethylene-propylene plastic
MF	melamine-formaldehyde resin
PA6	polyamide 6
PA12	polyamide 12
PA66	polyamide 66
PAEK	polyaryletherketone
PBT	poly(butylene terephthalate)
PC	polycarbonate
PE	polyethylene
PE-UHMW	polyethylene, ultra high molecular weight
PEEK	polyetheretherketone
PET	poly(ethylene terephthalate)
PF	phenol-formaldehyde resin
PI	polyimide
PMMA	poly(methyl methacrylate)
POM	polyacetal, polyoxymethylene
PP	polypropylene
PPE	poly(phenylene ether)
PS	polystyrene
PS-HI	polystyrene, high impact
PSU	polysulfone
PTFE	polytetrafluoroethylene
PUR	polyurethane
PVC	poly(vinyl chloride)
SAN	styrene-acrylonitrile plastic
SB	styrene-butadiene plastic
SI	silicone plastic
UP	unsaturated polyester resin

Table 3: Abbreviated terms for homopolymeric, copolymeric and natural polymeric materials

Note: The symbols for the monomer components of a copolymer generally appear from left to right in the order of decreasing mass ratio. A stroke “/” may be used to designate a copolymer when its omission would be confusing.

1.3.2 Symbols for special characteristics

The abbreviated terms for the basic polymers may be supplemented by up to four symbols to differentiate between modifications of the polymer. Table 4 presents a compilation of the symbols used to indicate special characteristics of the polymer, in accordance with ISO 1043 part 1. For a complete list refer to ISO 1043 part 1.

Note: The supplementary symbol(s) are to be placed after the abbreviated term of the basic polymer, separated by a hyphen, with no spacing before or after the hyphen. No symbol should be placed in front of the abbreviated term for the basic polymer. As an example, High Density Polyethylene should be marked as >PE-HD< rather than >HDPE<.

Symbol	Description
C	chlorinated
D	density
F	flexible or fluid or fluorinated
H	high or homo
I	impact
L	linear or low
M	medium or molecular
N	normal or novolak
P	plasticized or thermoplastic
S	sulfonated or syndiotactic or thermosetting
U	ultra or unplasticized or unsaturated
V	very
W	weight
X	crosslinked or crosslinkable

Table 4: Symbols for special characteristics

1.3.3 Symbols for commonly used rubbers

Table 5 presents a compilation of symbols for commonly used rubbers, in accordance with ISO 1629. For a full list, refer to ISO 1629.

Symbol	Description
ACM	Copolymer of ethyl acrylate and monomer for vulcanization (Acrylic rubber)
ANM	Copolymer of ethyl acrylate and acrylonitrile
EPDM	Ethylene, propylene rubber
ECO	Copolymer of ethylene oxide and chloromethyloxirane
BR	Butadiene rubber
CR	Chloroprene rubber
IIR	Isobutene-isoprene rubber
IR	Isoprene rubber, synthetic
NR	Natural rubber
SBR	Styrene-butadiene rubber
FMQ	Silicone rubber with methyl and fluorine groups
MQ	Silicone rubber with methyl group
AU	Polyester urethane
EU	Polyether urethane

Table 5: Symbols for commonly used rubbers

1.3.4 Symbols for commonly used thermoplastic elastomers

Table 6 presents a compilation of symbols for commonly used thermoplastic elastomers, in accordance with ISO 18064. For more detail refer to ISO 18064.

Category	Description	
Polyamide thermoplastic elastomer (TPA)	Polyamide thermoplastic elastomer, comprising a block copolymer of alternating hard and soft segments with amide chemical linkages in the hard blocks and ether and/or ester linkages in the soft blocks.	
	Sub-Category	Description
	TPA-EE	Soft segment with both ether and ester linkages
	TPA-ES	Polyester soft segment
	TPA-ET	Polyether soft segment
Copolyester thermoplastic elastomer (TPC)	Copolyester thermoplastic elastomer, consisting of a block copolymer of alternating hard segments and soft segments, the chemical linkages in the main chain being ester and/or ether.	
	Sub-Category	Description
	TPC-EE	Soft segment with ester and ether linkages
	TPC-ES	Polyester soft segment
	TPC-ET	Polyether soft segment
Olefinic thermoplastic elastomer (TPO)	Olefinic thermoplastic elastomer, consisting of a blend of a polyolefin and a conventional rubber, the rubber phase in the blend having little or no crosslinking.	
	Sub-Category	Description
	TPO-(EPDM+PP)	Blend of ethylene-propylene-diene terpolymer with polypropylene, with no or little crosslinking of the EPDM phase, the amount of EPDM present being greater than that of PP.
Styrenic thermoplastic elastomer (TPS)	Styrenic thermoplastic elastomer, consisting of at least a triblock copolymer of styrene and a specific diene, where the two end blocks (hard blocks) are polystyrene and the internal block (soft block or blocks) is a polydiene or hydrogenated polydiene.	
	Sub-Category	Description
	TPS-SBS	Block copolymer of styrene and butadiene
	TPS-SEBS	Polystyrene-poly(ethylene-butylene)-polystyrene
	TPS-SEPS	Polystyrene-poly(ethylene-propylene)-polystyrene
	TPS-SIS	Block copolymer of styrene and isoprene
Urethane thermoplastic elastomer (TPU)	Urethane thermoplastic elastomer, consisting of a block copolymer of alternating hard and soft segments with urethane chemical linkages in the hard blocks and ether, ester or carbonate linkages or mixtures of them in the soft blocks.	
	Sub-Category	Description
	TPU-ARES	Aromatic hard segment, polyester soft segment
	TPU-ARET	Aromatic hard segment, polyether soft segment
	TPU-AREE	Aromatic hard segment, soft segment with ester and ether linkages
	TPU-ARCE	Aromatic hard segment, polycarbonate soft segment
	TPU-ARCL	Aromatic hard segment, polycaprolactone soft segment
	TPU-ALES	Aliphatic hard segment, polyester soft segment
	TPU-ALET	Aliphatic hard segment, polyether soft segment
Dynamically vulcanized thermoplastic elastomer (TPV)	Thermoplastic rubber vulcanizate consisting of a blend of a thermoplastic material and a conventional rubber in which the rubber has been crosslinked by the process of dynamic vulcanization during the blending and mixing step.	
	Sub-Category	Description
	TPV-(EPDM+PP)	Combination of EPDM and polypropylene in which the EPDM phase is highly crosslinked and finely dispersed in a continuous polypropylene phase

Category	Description	
	TPV-(NBR+PP)	Combination of acrylonitrile-butadiene rubber and polypropylene in which the NBR phase is highly crosslinked and finely dispersed in a continuous polypropylene phase
	TPV-(NR+PP)	Combination of natural rubber and polypropylene in which the NR phase is highly crosslinked and finely dispersed in a continuous polypropylene phase
	TPV-(ENR+PP)	Combination of epoxidized natural rubber and polypropylene in which the ENR phase is highly crosslinked and finely dispersed in a continuous polypropylene phase
	TPV-(IIR+PP)	Combination of butyl rubber and polypropylene in which the IIR phase is highly crosslinked and finely dispersed in a continuous polypropylene phase
Miscellaneous material (TPZ)	Unclassified thermoplastic elastomer comprising any composition or structure other than those grouped in TPA, TPC, TPO, TPS, TPU and TPV.	
	Sub-Category	Description
	TPZ-(NBR+PVC)	Blend of acrylonitrile-butadiene rubber and poly(vinyl chloride) <i>Note: Many NBR+PVC blends are thermoset vulcanized rubbers, and with these the prefix TPZ should not be used.</i>

Table 6: Symbols for commonly used thermoplastic elastomers

1.3.5 Symbols for commonly used fillers and reinforcing materials

Table 7 presents a compilation of symbols for commonly used fillers and reinforcing materials, as well as symbols for the form or structure that these materials may take. When determining the symbol for a filler or reinforcing material, combine one symbol from position 1 with one symbol from position 2. For example, carbon fibre would have the symbol CF.

For a complete list, refer to ISO 1043 part 2.

Symbol Pos 1	Description	Symbol Pos 2	Description
C	carbon	B	beads, spheres, balls
G	glass	D	powder
K	calcium carbonate	F	fibre
L	cellulose	L	layer
M	mineral, metal	M	mat
P	mica	P	paper
Q	silica	W	woven fabric
R	aramid	X	not specified
T	talcum	Y	yarn
W	wood	Z	others
X	not specified		
Z	others		

Table 7: Symbols for commonly used fillers and reinforcing materials

1.3.6 Symbols for commonly used plasticizers

Table 8 presents a compilation of symbols for commonly used plasticizers, in accordance with ISO 1043 part 3. For a full list, refer to ISO 1043 part 3.

Symbol	Description
BBP	Benzyl butyl phthalate
DBP	Dibutyl phthalate
DEP	Diethyl phthalate
DIDP	Diisodecyl phthalate
DINA	Diisononyl adipate
DINP	Diisononyl phthalate
DMP	Dimethyl phthalate
DOA	Diocetyl adipate
DOP	Diocetyl phthalate
ELO	Epoxidized lineseed oil
ESO	Epoxidized soya bean oil

Table 8: Symbols for commonly used plasticizers

1.3.7 Symbols for commonly used flame retardants

Table 9 presents a compilation of symbols for commonly used flame retardants, in accordance with ISO 1043 part 4. For a full list of fire retardants, refer to ISO 1043 part 4.

Type	Code	Description
Halogenated compounds	10	aliphatic/alicyclic chlorinated compounds
	11	aliphatic/alicyclic chlorinated compounds in combination with antimony compounds
	12	aromatic chlorinated compounds
	13	aromatic chlorinated compounds in combination with antimony compounds
	14	aliphatic/alicyclic brominated compounds
	15	aliphatic/alicyclic brominated compounds in combination with antimony compounds
	16	aromatic brominated compounds (excluding brominated diphenyl ether and biphenyls)
	17	aromatic brominated compounds (excluding brominated diphenyl ether and biphenyls) in combination with antimony compounds
	18	polybrominated diphenyl ether
	19	polybrominated diphenyl ether in combination with antimony compounds
	20	polybrominated biphenyls
	21	polybrominated biphenyls in combination with antimony compounds
	22	aliphatic/alicyclic chlorinated and brominated compounds
25	aliphatic fluorinated compounds	
Nitrogen compounds	30	nitrogen compounds (confined to melamine, melamine cyanurate, urea)
Organic phosphorus compounds	40	halogen-free organic phosphorus compounds
	41	chlorinated organic phosphorus compounds
	42	brominated organic phosphorus compounds
Inorganic phosphorus compounds	50	ammonium orthophosphates
	51	ammonium polyphosphates
	52	red phosphorus
Metal oxides, metal hydroxides, metal salts	60	aluminium hydroxide
	61	magnesium hydroxide
	62	antimony(III) oxide
	63	alkali-metal antimonite
	64	magnesium/calcium carbonate hydrate
Boron and zinc compounds	70	inorganic boron compounds
	71	organic boron compounds
	72	zinc borate
	73	organic zinc compounds
	74	not allocated
Silica compounds	75	inorganic silica compounds
	76	organic silica compounds
Others	80	Graphite

Table 9: Symbols of commonly used flame retardants

2 Definitions and Abbreviations

<u>Term</u>	<u>Definition</u>
Copolymer	A polymer formed from two or more different types of monomers.
ELV	End-of-Life Vehicles
Filler	Additives that lower the consumption of more expensive base material or enhance the properties of the manufactured component in some way (examples: strength, performance).
Flame retardant	A substance that markedly retards the propagation of a flame.
Homopolymer	A polymer formed from a single type of monomer.
Monomer	A molecule that can be chemically bonded to other monomers to form a chain of molecules (known as a polymer chain). It is thus the repeat unit of a polymer chain.
Plasticizer	A substance used to make a plastic more flexible or pliable. In some cases they are also added to improve the processing of the component.
Polymer	A substance produced through the chemical bonding of many identical or compatible molecules known as monomers. The term polymer is often used in place of plastic, rubber or elastomer.
Reinforcing materials	Materials that are used to improve the strength of the manufactured component.
Rubber	Pliable and elastic material that is either processed from naturally occurring sap (most commonly from a rubber tree) or various synthetic elastic materials whose properties resemble that of natural rubber.
Thermoplastic elastomer	Consisting of a polymer or blend of polymers that has properties at its service temperature similar to those of vulcanised rubber but can be processed and reprocessed at elevated temperature like a thermoplastic.

All other definitions and abbreviations are defined in the [Bombardier Transportation lexicon](#).

3 Reference documents

Doc ID-number	Title
- ISO 11469	Plastics - Generic identification and marking of plastic products, 2nd Ed., 2000-05-15.
- ISO 1043-1	Plastics - Symbols and abbreviated terms – Part 1: Basic polymers and their special characteristics, 3rd Ed., 2001-12-15.
- ISO 1043-2	Plastics - Symbols and abbreviated terms – Part 2: Fillers and reinforcing materials, 2nd Ed., 2000-07-15.
- ISO 1043-3	Plastics - Symbols and abbreviated terms - Part 3: Plasticizers, 2nd Ed., 1996-04-15.
- ISO 1043-4	Plastics - Symbols and abbreviated terms – Part 4: Flame retardants, 1 st Ed., 1998-02-15.
- ISO 1629	Rubber and Latex – Nomenclature, 3rd Ed., 1995-11-15.
- ISO 18064	Thermoplastic elastomers – Nomenclature and abbreviated terms, 2005-02-03.
- 2000/53/EC	End-of-Life Vehicles (ELV) directive.
- 2003/138/EC	Commission Decision of 27 February 2003 - establishing component and material coding standards for vehicles pursuant to Directive 2000/53/EC of the European Parliament and of the Council on end-of-life vehicles.

The current status of each business process document is documented on the coversheet of the available document in the respective database (e.g. in the eBTM).

4 Approval Information

Prepared:	Ben Rose	2010-03-29
	Author	Signature
		Date (yyyy-mm-dd)
Released :	Sara Paulsson / Manager CoC DfE	2010-03-30
	process owner	Signature
		Date (yyyy-mm-dd)

5 Revision Log

Revision	Date of Release	Description of changes
0	2002-10-03	First release
1	2010-03-17	Updated to reflect latest document template and ISO standards. Enhancements include: - Document type changed from a Directive to a Standard. - Title changed from 'marking of polymers' to reflect increased scope of document in line with ISO standards. - Details of how to mark thermoplastic elastomers added in line with ISO 18064.

CERTIFICATE



Certificate

The soft foams from the polyether- and polyester based product line

PUR- Foams

fulfil the requirements in terms of human ecology according to Oeko-Tex® Standard 100, annex 6, product class 1 for baby articles.

The certified products fulfil the effective requirements of

- Appendix XVII of REACH – regarding the use of azo-colourants, nickel release, etc.
- the American requirement regarding the total amount of lead in children's products according to the Consumer Product Safety Improvement Act (CPSIA)
- the Chinese standard GB 18401:2010.

FoamPartner is authorized to use the Oeko-Tex® mark for above mentioned product.

Testing institute: Hohenstein Textile Testing Institute
Certificate no.: 98.0.1193
Material thickness: max. 10 cm

All tests were carried out and audited according to the listed methods and procedures.

The original certificate can be viewed at our premises by request.

FoamPartner Germany GmbH
Max-Näder-Strasse 15
D-37115 Duderstadt
Deutschland

Duderstadt, September 2021

This authorization is valid until 31.08.2022

MANAGEMENT SYSTEM CERTIFICATE

Certificato no./Certificate No.:
CERT-1353-2005-AE-VEN-SINCERT

Data prima emissione/Initial date:
17 ottobre 2005

Validità:/Valid:
01 settembre 2020 - 31 agosto 2023

Si certifica che il sistema di gestione di/This is to certify that the management system of

ARES LINE S.p.A

Via Brenta, 7 - Z.I. - 36010 Carrè (VI) - Italia

È conforme ai requisiti della norma per il Sistema di Gestione Ambientale/
Has been found to conform to the Environmental Management System standard:

ISO 14001:2015

Valutato secondo le prescrizioni del Regolamento Tecnico RT-09/
Evaluated according to the requirements of Technical Regulations RT-09

Questa certificazione è valida
per il seguente campo applicativo:

**Produzione attraverso le fasi di taglio,
cucito, incollaggio, insaccaggio, puntaggio,
assemblaggio e confezionamento,
commercializzazione ,fornitura,
installazione ed assistenza post vendita di
sedute per ufficio, attesa e collettività, di
arredi e di pannelli fonoassorbenti**

(IAF 23)

This certificate is valid
for the following scope:

**Manufacture all the various phases,
from cutting, sewing, gluing, stapling,
upholstering, assembling and packing,
trade, supply, installation and after sales
service for office, waiting rooms and
contract seating, furniture and acousting
absorbing panels**

(IAF 23)

Luogo e Data/Place and date:
Vimercate (MB), 31 agosto 2020



SGQ N° 003 A EMAS N° 009 P
SGA N° 003 D PRD N° 003 B
SGE N° 007 M PRS N° 094 C
SCR N° 004 F SSI N° 002 G

Membro di MLA EA per gli schemi di accreditamento
SGQ, SGA, PRD, PRS, ISP, GHG, LAB e LAT, di MLA IAF
per gli schemi di accreditamento SGQ, SGA, SSI, FSM
e PRD e di MRA ILAC per gli schemi di accreditamento
LAB, MED, LAT e ISP

Per l'Organismo di Certificazione/
For the Certification Body
DNV GL - Business Assurance
Via Energy Park, 14,
20871 Vimercate (MB) - Italy

Zeno Beltrami
Management Representative