

# For sustainable daily life



# Who would brand trash bags?

**There were few players in the market for biodegradable bags when this company from Ylöjärvi stepped onto the scene in 1997. At that time, Bioska was the only more durable alternative to paper bags, which easily get damp.**

**THE FIRST BIOSKA PRODUCTS** were bags and inliners. They were made to meet biowaste treatment needs of all sizes: households, restaurants and waste management companies could now obtain liners for both their indoor and outdoor containers.

**AS RAW MATERIALS IMPROVED**, the composting time of bags and inliners decreased. Bioska's durability and moisture retention kept getting better and better. Today, we have recipes for both single and multilayer films.

**OUR PRODUCT RANGE IS NO LONGER LIMITED TO JUST BAGS.** Multilayer films are used to meet a wide range of packaging and protection requirements in industry and agriculture. We have films that are coloured and transparent, symmetrical and asymmetrical. A film's exact properties will depend on what our customer needs to use it for.

**ALL BIOSKA PRODUCTS SHARE ONE THING IN COMMON:** they are made in Finland. Our plant is powered by CO<sub>2</sub>-free energy and harnesses waste heat in its processes to reduce CO<sub>2</sub> emissions. All Bioska products are manufactured in accordance with the European standard for Home and Industrial compostability, EN 13432, which means that they are both compostable and biodegradable.

## **BIOSKA AS A PART OF THE GLOBAL WALKI GROUP**

Walki Plastiroll, the company that makes Bioska in Ylöjärvi, Finland, is part of Walki Group – one of Europe's largest manufacturers of biodegradable bags and packaging films, with over 25 years' experience in developing and manufacturing compostable materials.



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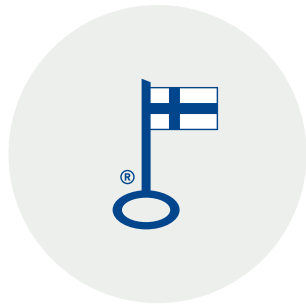
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# Bioska bags, sacks and inliners

**Bioska products are designed to be compostable and biodegradable. They're suitable for all types of biowaste sorting.**

- easy and convenient to use in both kitchens and waste rooms
- breathable material prevents condensation
- food sample bags can even withstand temporary freezing
- a hygienic way to handle evening walks with your dog



## Technical information

Star bottom, double seams, straight bottom, gussets... We make exactly the kind of bags, sacks and inliners that our customers need. Our standard print is a one colour continuous print on one side of the bag, and the standard colour of our bags is light green. Other colours and prints are possible. All inks are EN:13432 certified. Our bags are made from the industrially compostable Bioska 302 material and the home compostable Bioska 402 material.

PRODUCT	VOLUME	STRENGTH (mm)	WIDTH (mm)	LENGTH (mm)	COLOUR
BIOWASTE BAGS	6L–60L	0.012–0.050	200–600	250–700	Standard
HAUSKA/OTHER DOG POOP BAGS	2L >	0.012–0.030	200–500	250–500	Green or black
BIO SACKS / INLINERS	75L–240L	0.014–0.050	750–1150	900–1500	Standard
BIO INLINERS FOR DEEP CONTAINERS	800L–1300L	0.020–0.050	700–1200	900–3350	Standard
FOOD SAMPLE BAGS	2L >	0.012–0.030	200–500	250–500	Translucent milky white

The information presented here is based on a legitimate quantity of research and reflects our current understanding. We accept no responsibility for the accuracy of information that has been supplied to us by third parties and subsequently



# Bioska Plus bags, sacks and inliners



**Bioska Plus takes biowaste sorting to a whole new level. Its performance in industrial composting is in a class of its own.**

- can withstand a greater weight of biowaste than any other biobag on the market
- keeps your kitchen bin clean and dry
- tears more easily in waste treatment facilities
- composts at lower temperatures.

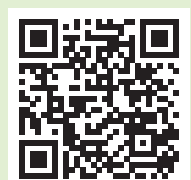


## Technical information

Bioska Plus products have been designed to meet the requirements of waste treatment facilities. They've been tested by a variety of different biowaste treatment facilities with excellent results. They were also proven highly suitable for use in biogas processes. These products come in brown and olive green, and are made from the industrially compostable Bioska Plus material.

PRODUCT	VOLUME	STRENGTH (mm)	WIDTH (mm)	LENGTH (mm)	COLOUR
BIOWASTE BAGS	6L-60L	0.014-0.050	200-600	250-700	Brown
BIO SACKS / INLINERS	75L-240L	0.014-0.050	750-1150	900-1500	Brown
HOME COMPOST BAG	20L	0.018	420	500	Brown
DRY TOILET INLINER	60L	0.022	600	700	Olive green

 **Recommended by waste treatment facilities**



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# Bioska shopping bags

## Shopping bags

Bioska shopping bags are a compostable alternative to traditional plastic bags. The material is extremely durable and has the same tensile strength as a regular shopping bag. Thanks to its multilayer film, Bioska's shopping bags have a longer shelf life than other biodegradable shopping bags. We've been making these compostable shopping bags since 2007.



## Fruit-and-vegetable bags

Bioska fruit-and-vegetable bags are a sustainable alternative to traditional plastic bags. They're made from breathable material to prevent moisture from accumulating inside the bag during storage. The bags can withstand several kilos of weight and can be reused as biowaste bags. Bioska has been making these handy fruit-and-vegetable bags since 2000.



## Multipurpose bags

These multipurpose compostable bags are sold in handy rolls. They have a capacity of 30L.



# Technical information

Our range of shopping bags includes t-shirt bags, patch handle bags, smaller pharmacy bags, and multipurpose bags. They're all handy and sustainable alternatives to plastic bags. They can also be reused for biowaste sorting, in the kitchen or garden. These bags are made from the industrially compostable Bioska 302 material.

PRODUCT	STRENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	OTHER INFORMATION	PACKAGING METHOD	PRINTING
<b>SHOPPING BAG</b> (t-shirt)	0.020–0.050	370–570	460–650	Gussets min 65 mm max 120 mm	Roll, block, and loose packed in a box	Continuous 1+0 Position 4+4
<b>SHOPPING BAG</b> (patch handle)	0.030–0.060	300–630	400–600	40–60 mm bottom pleat	Loose packed in a box	Position 8+8
<b>PHARMACY BAG</b>	0.025–0.045	200–400	270–600	30 mm hanging block	Block and loose packed in a box	Position 4+4
<b>MULTIPURPOSE BAG</b>	0.020–0.060	370–600	460–650	–	Roll (with or without core)	Continuous 1+0
<b>FRUIT-AND-VEGETABLE BAG</b>	0.012–0.035	300–450	400–550	–	Roll (with or without core)	Continuous 1+0

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# Walki®Bioska Film 302/402

**Our compostable agricultural, laminating and magazine packaging films reduce the amount of work needed at the waste processing stage.**

## Agricultural film

- its compostability reduces labour costs in fields and greenhouses
- easy to handle in agricultural processes
- increases plant productivity by raising the temperature of the soil and preventing moisture evaporation
- reduces the need for pesticides



## Laminating film

- a compostable film for compostable products requiring lamination
- easy to handle in industrial processes
- an odourless and breathable alternative for items such as diapers, sanitary towels, food pads and tablecloths
- its tensile strength and rigidity are in a class of their own
- can be laminated with hotmelt or with heat and pressure



## Magazine packaging film

- durable packaging film that protects products during distribution
- easy to handle in industrial processes
- easy to seal
- works well in a variety of different packaging machines
- magazines remain visible through the milky white film



# Technical information

Agricultural films come in black or black-and-white. Laminating films and magazine packaging films are milky white. They're all easy to print on. The films are made from the industrially compostable Bioska 302 material and home compostable Bioska 402 material.

	STANDARD		NOMINAL VALUE	UNIT	TOLERANCE
<b>DIMENSIONS</b>					
<b>THICKNESS</b>	ISO 534		20	mic	+/- 15%
<b>PHYSICO-MECHANICAL PROPERTIES</b>					
<b>UNIT WEIGHT</b>	ASTM D 2673		25	g/m <sup>2</sup>	-
<b>DENSITY</b>	ISO 1133		1.25	g/cm <sup>3</sup>	-
<b>MODULUS (AUTOMATIC YOUNG'S)</b>	ISO 527-3	MD	6,100	MPa	-
		CD	29,500	MPa	-
<b>TENSILE STRESS AT YIELD</b>	ISO 527-3	MD	48	MPa	-
		CD	21	MPa	-
<b>TENSILE STRESS AT TENSILE STRENGTH</b>	ISO 527-3	MD	47	MPa	-
		CD	27	MPa	-
<b>TENSILE STRAIN AT TENSILE STRENGTH</b>	ISO 527-3	MD	2.2	mm/mm	-
		CD	4.7	mm/mm	-
<b>TENSILE EXTENSION AT BREAK</b>	ISO 527-3	MD	120	mm	-
		CD	250	mm	-
<b>LOAD AT TENSILE STRENGTH</b>	ISO 6383-1	MD	0.4	N	-
		CD	2.7	N	-
<b>TEAR RESISTANCE</b>	ISO 6383-1	MD	28	N/mm	-
		CD	182	N/mm	-
<b>TENSILE STRESS AT TENSILE STRENGTH</b>	ISO 6383-1	MD	1.1	MPa	-
		CD	7.3	MPa	-
<b>THERMAL PROPERTIES</b>					
<b>MELTING POINT</b>	ISO 3146		125	°C	-

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# Walki®Bioska Film 502

Walki®Bioska Film 502 transparent packaging film is ideal whenever you need to put your product on display. It's great for packaging products such as magazines, napkins and toilet rolls.

- home compostable and therefore suitable for all markets
- has a pleasant feel and is easy to print on
- transparent and glossy packaging film
- unique and modern multilayer film

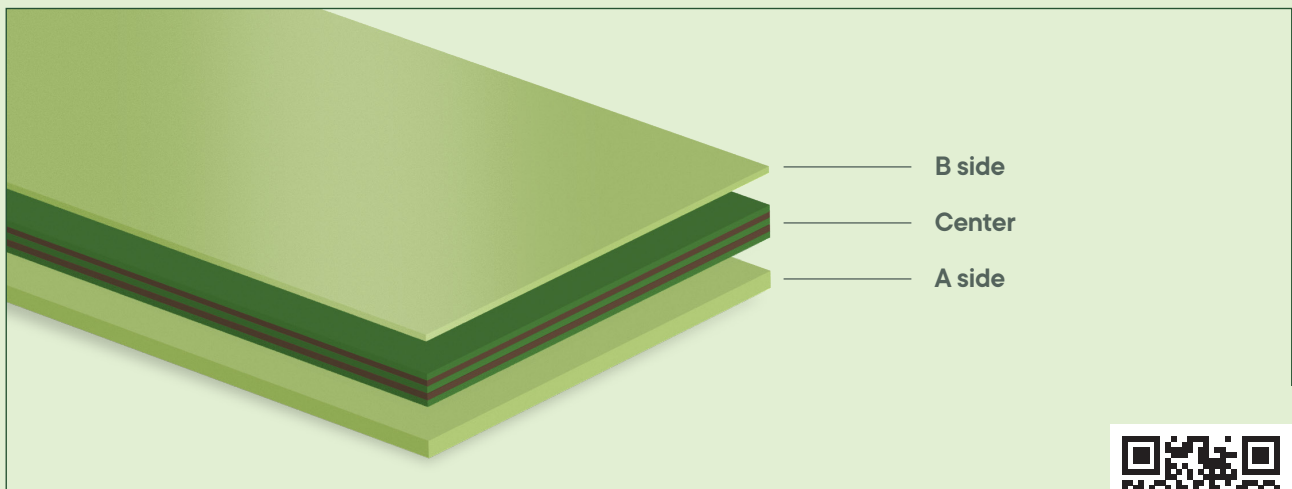


## Technical information

Walki®Bioska Film 502 has a pleasant feel and is easy to print on. Its breathable structure prevents condensation forming. This film is also available for food packaging.

	STANDARD		NOMINAL VALUE	UNIT	TOLERANCE
<b>DIMENSIONS</b>					
THICKNESS	ISO 534		20	mic	+/- 15%
<b>PHYSICO-MECHANICAL PROPERTIES</b>					
UNIT WEIGHT	ASTM D 2673		25.6	g/m <sup>3</sup>	-
DENSITY	ISO 1133		1.28	g/cm <sup>3</sup>	-
MODULUS (AUTOMATIC YOUNG'S)	ISO 527-3	MD	320	MPa	-
		CD	340	MPa	-
TENSILE STRESS AT YIELD	ISO 527-3	MD	15	MPa	-
		CD	11	MPa	-

	STANDARD		NOMINAL VALUE	UNIT	TOLERANCE
<b>TENSILE STRESS AT TENSILE STRENGTH</b>	ISO 527-3	MD	31	MPa	-
		CD	16	MPa	-
<b>TENSILE EXTENSION AT BREAK</b>	ISO 527-3	MD	240	mm	-
		CD	350	mm	-
<b>TEAR RESISTANCE</b>	ISO 6383-2	MD	4,000	N/mm	-
		CD	3,500	N/mm	-
<b>BARRIER PROPERTIES</b>					
<b>WVTR</b>	ISO 2528:1995		55	g/m <sup>2</sup> /24h	-
<b>OTR</b>	ASTM D 3985-5		1,700	cm <sup>3</sup> /m <sup>2</sup> /24h	-
<b>THERMAL PROPERTIES</b>					
<b>MELTING POINT</b>	ISO 3146		125	°C	-



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# Walki®Bioska Film 506

Walki®Bioska Film 506 is particularly suited to packaging fruit, vegetables and berries. The shelf life of fresh produce can be extended. This film retains its durability even under demanding conditions, such as oils and salad dressings. The products can still be easily seen through the film. You could just as well use this film to package clothes, or even to make bags, sacks and liners.

- meets the EN 13432 industrial compostability standard
- easy to use, seal and print on with flow-pack machines
- its asymmetric structure keeps sealing blades clean
- can even be sealed with ultrasonic or hot-air

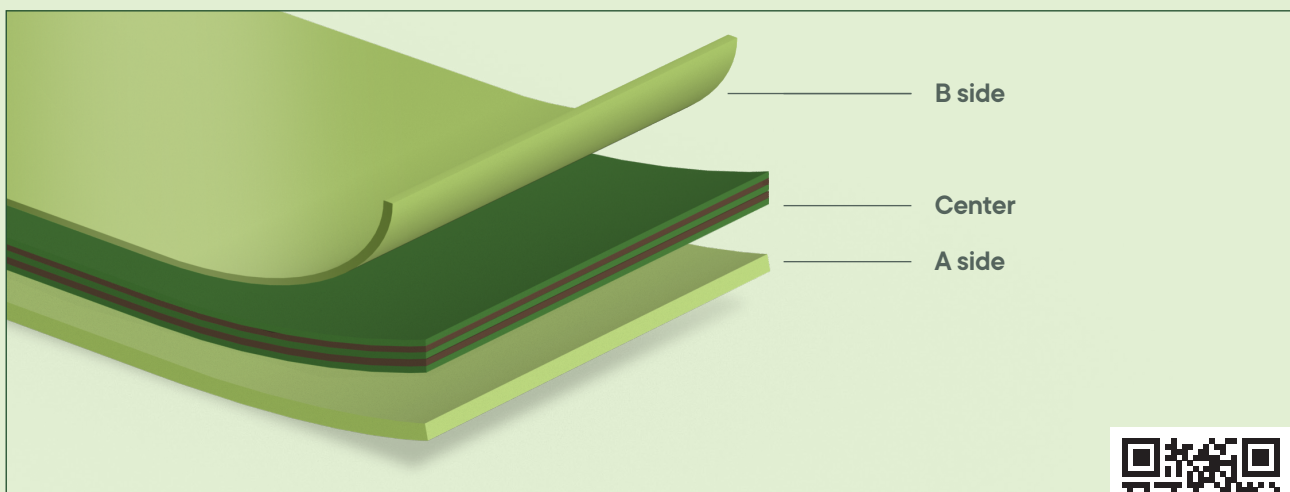


## Technical information

Walki®Bioska Film 506 is industrially compostable. It becomes self-adhesive when subjected to heat, so a separate adhesive is not necessarily required during lamination. It can be laminated onto cardboard, cellulose-based products and a variety of other compostable materials.

	STANDARD		NOMINAL VALUE	UNIT	TOLERANCE
<b>DIMENSIONS</b>					
THICKNESS	ISO 534		30	mic	+/- 15%
<b>PHYSICO-MECHANICAL PROPERTIES</b>					
UNIT WEIGHT	ASTM D 2673		37.5	g/m <sup>2</sup>	-
DENSITY	ISO 1133		1.25	g/cm <sup>3</sup>	-
MODULUS (AUTOMATIC YOUNG'S)	ISO 527-3	MD	5,600	MPa	-
		CD	4,900	MPa	-
TENSILE STRESS AT YIELD	ISO 527-3	MD	69	MPa	-
		CD	65	MPa	-

	STANDARD		NOMINAL VALUE	UNIT	TOLERANCE
TENSILE STRESS AT TENSILE STRENGTH	ISO 527-3	MD	100	MPa	-
		CD	64	MPa	-
TENSILE STRAIN AT TENSILE STRENGTH	ISO 527-3	MD	3.2	mm/mm	-
		CD	0.1	mm/mm	-
TENSILE STRAIN AT BREAK	ISO 527-3	MD	3.5	mm/mm	-
		CD	1.2	mm/mm	-
TENSILE EXTENSION AT BREAK	ISO 527-3	MD	180	mm	-
		CD	78	mm	-
LOAD AT TENSILE STRENGTH	ISO 6383-1	MD	0.4	N	-
		CD	0.5	N	-
TEAR RESISTANCE	ISO 6383-1	MD	25	N/mm	-
		CD	36	N/mm	-
TENSILE STRESS AT TENSILE STRENGTH	ISO 6383-1	MD	1.0	MPa	-
		CD	1.5	MPa	-
<b>BARRIER PROPERTIES</b>					
WVTR	ASTM E 96		105	g/m <sup>2</sup> /24h	-
OTR	ASTM D 3985-5		1043	cm <sup>3</sup> /m <sup>2</sup> /24h	-
<b>THERMAL PROPERTIES</b>					
MELTING POINT	ISO 3146		110	°C	-



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# Walki®Bioska Film 903

**One of the latest fruits of our research is an extremely durable, industrially compostable packaging film. It has a variety of applications. As horticulture grow or soil bags/sacks, it provides excellent UV protection. It can also withstand rough treatment as a packaging envelope or film for e-commerce. We are also further developing this product into a compostable film that can be used in optical sorting.**

We develop products to meet our customers' precise needs – such as biowaste bags that can be used in the optical sorting of biowaste at treatment facilities. Standard biowaste bags cannot withstand the vibrations and pressure blasting used in this process. Our latest arrival can. It's an effective substitute for plastic when you don't want any plastic to end up in fields at the end of the process.

**Contact our sales team to get exactly the product you need.**



# Technical information

	STANDARD		NOMINAL VALUE	UNIT	TOLERANCE
<b>DIMENSIONS</b>					
<b>THICKNESS</b>	ISO 534		47	mic	+/- 10%
<b>PHYSICO-MECHANICAL PROPERTIES</b>					
<b>UNIT WEIGHT</b>	ASTM D 2673		69,5	g/m <sup>2</sup>	-
<b>DENSITY</b>	ISO 1133		1,48	g/m <sup>2</sup>	-
<b>MODULUS</b>	ISO 527-3	MD	1800	MPa	-
		CD	980	MPa	-
<b>TENSILE STRESS AT YIELD</b>	ISO 527-3	MD	22	MPa	-
		CD	14	MPa	-
<b>TENSILE STRESS AT TENSILE STRENGTH</b>	ISO 527-3	MD	28	MPa	-
		CD	21	MPa	-
<b>TENSILE EXTENSION AT BREAK</b>	ISO 527-3	MD	190	mm	-
		CD	240	mm	-
<b>TEAR RESISTANCE</b>	ISO 6383-2	MD	580	N/mm	-
		CD	810	N/mm	-

Tässä esitetty informaatio pohjautuu perusteltuun määrään tutkimusta ja vastaa näin tämänhetkistä tietämystämme. Emme ota vastuuta ulkopuolisten tahojen meille välittämän informaation oikeellisuudesta, jota on käytetty tarjoamamme informaation tuottamiseen.



# Standard product list

PRODUCT NUMBER	PRODUCT NAME	SIZE (mm)	THICKNESS MY	COLOUR	PIECES / ROLL	ROLL / BOX	BOX / PALLET	ROLL / PALLET	EAN CODE
<b>Bioska biowaste bags, sacks and inliners</b>									
2005	Bioska 6L	290x400 mm	14	natural/light green	15	30	96	2 880	6414630020057
2010	Bioska 10L	375x450 mm	15	natural/light green	15	36	96	3 456	6414630020101
1997	Bioska 20L	420x500 mm	17	natural/light green	15	30	96	2 880	6414630019976
2201	Bioska 20L bag with handles	410x560 mm	16	natural/light green	30	16	84	1 344	6414630022013
2585	Bioska 30L bag with handles	480x550 mm	16	natural/light green	15	24	96	2 304	6414630025854
1991	Bioska 30L	500x500 mm	20	natural/light green	20	15	96	1 440	6414630019914
1994	Bioska 35L	540x510 mm	20	natural/light green	20	15	96	1 440	6414630019945
2006	Bioska 40 L	500x700 mm	20	natural/light green	30	20	48	960	6414630020064
1993	Bioska 150L	750x1150 mm	40	natural/light green	5	20	48	960	6414630019938
2008	Hauska small	200x300 mm	18	green	30	20	180	3 600	6414630020088
2009	Hauska large, tie-able handles	200x360 mm	18	green	30	20	180	3 600	6414630020095
2281	Bioska fruit-and-vegetable bags	350x450 mm	12	green	200	10	32	320	6414630022815
1990	Bioska food sample bags	210x320 mm	18	natural/white	50	10	180	1 800	6414630019907
<b>Bioska shopping bags</b>									
2610	Bioska shopping bag	280+2x90x560	24	white		500	32	16 000	6414630026103
<b>Bioska bio inliners for containers</b>									
1996	Bioska 75L	650x900 mm	25	natural/light green	10	20	48	960	6414630019969
1999	Bioska 140L	850x1400 mm	20	natural/light green	7	15	48	720	6414630019990
1998	Bioska 240L	1130x1400 mm	20	natural/light green	7	10	48	480	6414630019983
<b>Bioska Plus biowaste bags and bio inliners</b>									
2500	Bioska Home compost bag 20L	420x500 mm	18	brown	20	18	96	1 728	6414630025007
2592	BioskaPlus 10L	375x450 mm	18	brown	15	36	96	3 456	6414630025922
2597	BioskaPlus 20L	420x500 mm	18	brown	15	30	96	2 880	6414630025977
2591	BioskaPlus 30L	500x500 mm	20	brown	20	15	96	1 440	6414630025915
2583	Sanka-BioskaPlus 20L	410x560 mm	16	brown	15	24	96	2 304	6414630025830
2584	Sanka-BioskaPlus 30L	480x500 mm	16	brown	15	20	96	1 920	6414630025847
2017	Bioska DryToilet	600x700 mm	20	green	30	10	48	480	6414630020170
<b>Bioska Plus bio inliners for containers</b>									
2596	Bioska Plus 75L	650x900	25	brown	10	20	48	960	6414630025960
2599	Bioska Plus 140L	850x1400	20	brown	7	25	48	1200	6414630025991
2598	Bioska Plus 240L	1130x1400	20	brown	7	15	48	720	6414630025984

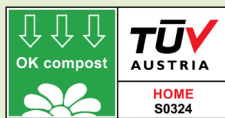
# Bioska's certificates



**Bioska products have been awarded the Key Flag Symbol, which certifies that a product has been manufactured in Finland.**



All Bioska products meet the European standard for industrial compostability, EN 13432. Some of the materials are also home compostable.



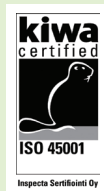
Our production facility in Ylöjärvi meets the following standards:

ISO 9001:2015: quality management system

ISO 14001:2015: Environmental management system

ISO 22000:2018, ISO/TS 22002-4:2013: food safety management system

ISO 45001:2018: occupational health and safety system



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# Bioska's values

We seek to embody responsibility, innovation and courage in everything we do. Sustainable development guides all of our actions.

