



ADVANCED FIT FOR LIVING

Roica™ Eco Smart Family

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ROICA™ Introduction

ROICA™ Advanced Fit premium stretch fiber is a contemporary innovation designed for everyday life by Asahi Kasei in an innovative range of smart functions for every Modern Wardrobe need.

ROICA™ is the secret ingredient in everyday living for sport, intimates, fashion, accessories and business wear. Its innovation transforms your basic clothes into special selections. It changes the **Ordinary** to **Clever** and your **Standard** items into **Smarter** choices. ROICA™ balances comfort and fit, shaping and control, giving pleasure and ease with values for everyone everyday.



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ROICA™

Stretch & Fit for the Contemporary Life

Today, stretch is expected everyday and is a basic option across every fabric, fashion and functional application assortments.

Today, consumers are expecting higher performances from everything they buy – stretch included!

Asahi Kasei delivers this and more, with its range of **ROICA™ Premium Stretch Yarns**, and the innovative focused functions that deliver everything from active calibrated fit to colour matched dyeability and even a world-first more sustainable & responsible eco-smart stretch functionality.

No other stretch brand can deliver better results for the contemporary consumer today!



ROICA™ Five Speciality Innovations

ROICA™ Colour Perfect: Only ROICA™ offers a family of yarns that can give excellent, flawless and world unique colour dimensions in advanced fit solutions.

ROICA™ Contour: A family of yarns that create new shaping, stretch and silhouette solutions for a calibrated fit, effortless control, softness, comfort and support.

ROICA™ Resistance: A high performance range of stretch solutions with performance resistance designed for match particular applications including heat and chemical resistance in make and wear.

ROICA™ Feel Good: A unique range of advanced stretch yarns that deliver personal performance and measurable wellness, freshness and comfort metrics for travel, sport, leisure and more.

ROICA™ Eco Smart:



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ROICA™ Eco Smart Family

A true world first with the most contemporary sustainable range of responsibly produced premium stretch yarns that are a key part of the Asahi Kasei mission to improve eco impacts while creating value with values for customers and consumers alike.

These are the only eco-stretch options available in the market today.

Today ROICA™ unique Eco Smart Family is able to offer two key yarns:

ROICA™ V550

ROICA™ EF



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ROICA™ V550



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ROICA™ V550

ROICA™ V550 represents a unique yarn that degrades in the environment without releasing any harmful substances as verified and **tested by Hohenstein “Environmental compatibility” certificate**. This is possible due to a very special polymer fruit of the special R&D work from ROICA™ by Asahi Kasei meeting contemporary advanced consumer needs in terms of new generation values.

Yarn types available:

33, 45, 80, 135, 160, 240, 320, 400, 440, 480, 640, 960, 1280, 1870 dtex

30, 40, 70, 122, 140, 210, 280, 360, 400, 420, 560, 840, 1120, 1680 den

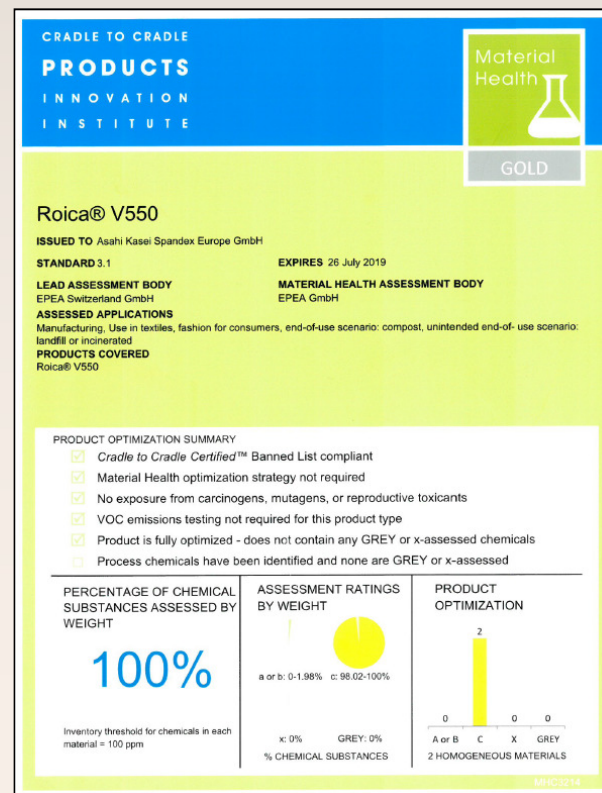


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ROICA™ V550 Certificates

The only elastane worldwide rated from Hohenstein as non-ecotoxic

Material Health Certification “Gold” by Cradle to Cradle Products Innovation Institute



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ROICA™ V550

C2C Material Health Certification – Important to know

In order to get C2C gold status, all the raw materials have to be gold status.

That means, if three different raw materials are used in one garment, all these three materials have to be gold status in C2C Material Health. If one of the materials has the silver status, the final garment will be judged on the status of silver, even if the other two raw materials are gold or platinum status.

Concerning this kind of process the C2C Material Health Certification is mainly a platform for designers and developers.

Focus is the B2C business, means business to consumer.

ROICA™ EF



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ROICA™ EF

ROICA™ EF is another unique proposal in terms of a premium stretch yarn offering ALSO sustainable, smart performances, certified by **GRS version 3**.

GRS, stands for Global Recycled Standard, a certification by Textile Exchange, quite widely recognized by textile international market that involves criteria and inspections.

Yarns type available:

22, 44, 78, 156 dtex, type R84D

20, 40, 70, 140 den, type R84D



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ROICA™ EF

The Recycling Process

ROICA™ EF source is based on:

In-house residues of polymer and yarn, e.g. after start up procedures.

Waste during warping and following residual yarn on bobbins and outside pre-consumer waste from established sources.

Recycled Content

ROICA™ yarns, type R84D, dtex 22, 44, 78, 156 has a percentage of recycled content of more than 50%.



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ROICA™ EF

Performances

- ROICA™ EF is a premium stretch fiber with same quality – performance standards set up by Asahi Kasei
- ROICA™ EF in all its portfolio is also **dyable** with cellulosic, proteine, polyamide fibers with a comparable performance of ROICA™ Colour Perfect family, better tone on tone with the companion fibers and improved fastness also at domestic washes level.
- **Reduction of Global Warming Potential (GWP).**
- Less waste in water thanks to closed loop systems.
- Using pre-industrial waste material in the Recycling-line results in reduced amount of waste and reduced amount of chemical compounds needed in polymerization.
- GRS version 3 audit is including also social aspects including principles of the ILO Declaration on Fundamental Principles and Rights at Work.
- Asahi Kasei is following a Chemical Management System (CMS).

ROICA™ EF

Performances

- Reduction of Global Warming Potential (GWP)

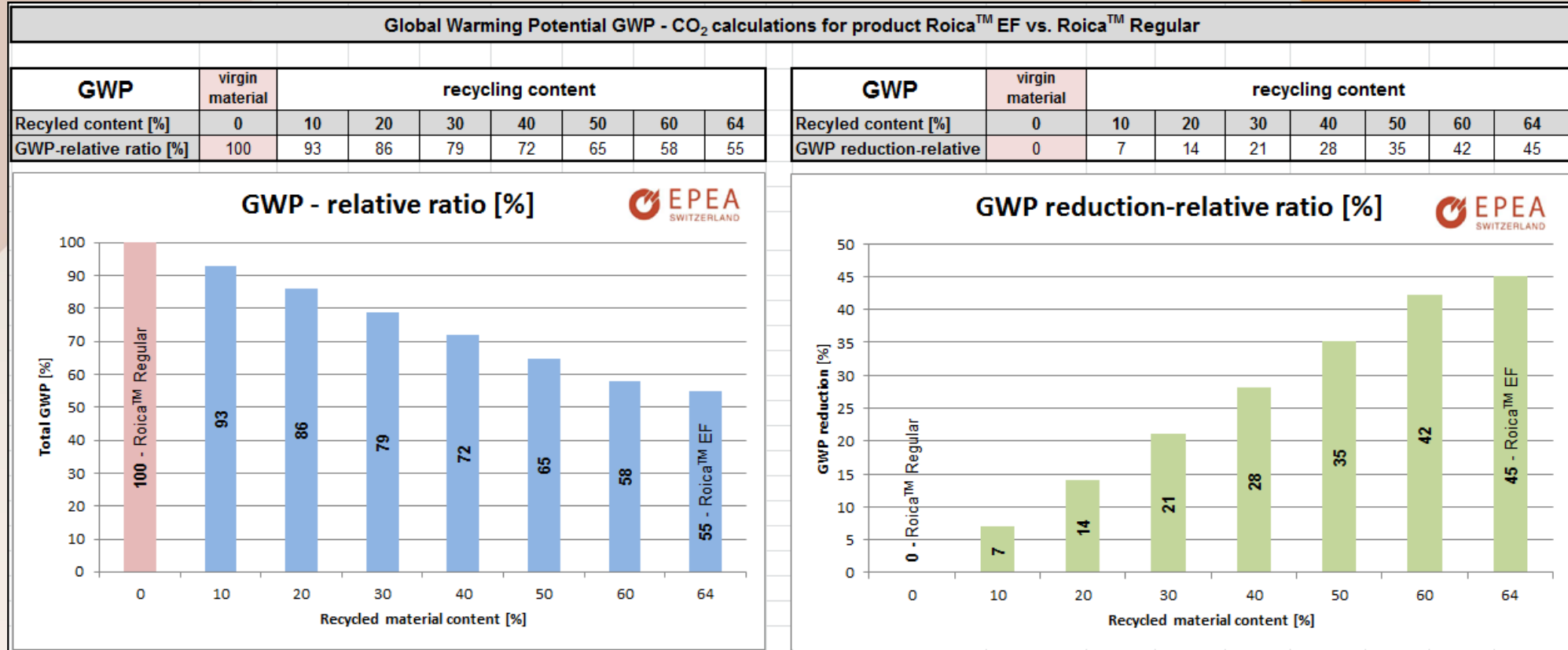
The Global Warming Potential GWP was developed to allow comparisons of the global warming impacts of different gases and is one outcome parameter of Life Cycle Analysis LCA. Specifically, it is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of carbon dioxide CO₂.

The larger the GWP, the more that a given gas warms the Earth compared to CO₂ over that time period. The time period usually used for GWPs is 100 years.

GWPs provide a common unit of measure, which allows analysts to add up emissions estimates of different gases (e.g., to compile a national greenhouse gas GHG inventory), and allows policymakers to compare emissions reduction opportunities across sectors and gases.

ROICA™ EF

Performances



The Roica™ EF reduces the GWP by more than 35%, starting at 50% recycling material content, related to GRS certificate.

ROICA™ EF

What is the ILO Declaration?

The principles of the International Labour Organisation ILO are the declaration on Fundamental Principles and Rights at Work :

- a) Freedom of association and the effective recognition of the right to collective bargaining.
- b) The elimination of all forms of forced or compulsory labour.
- c) The effective abolition of child labour.
- d) The elimination of discrimination in respect of employment and occupation.

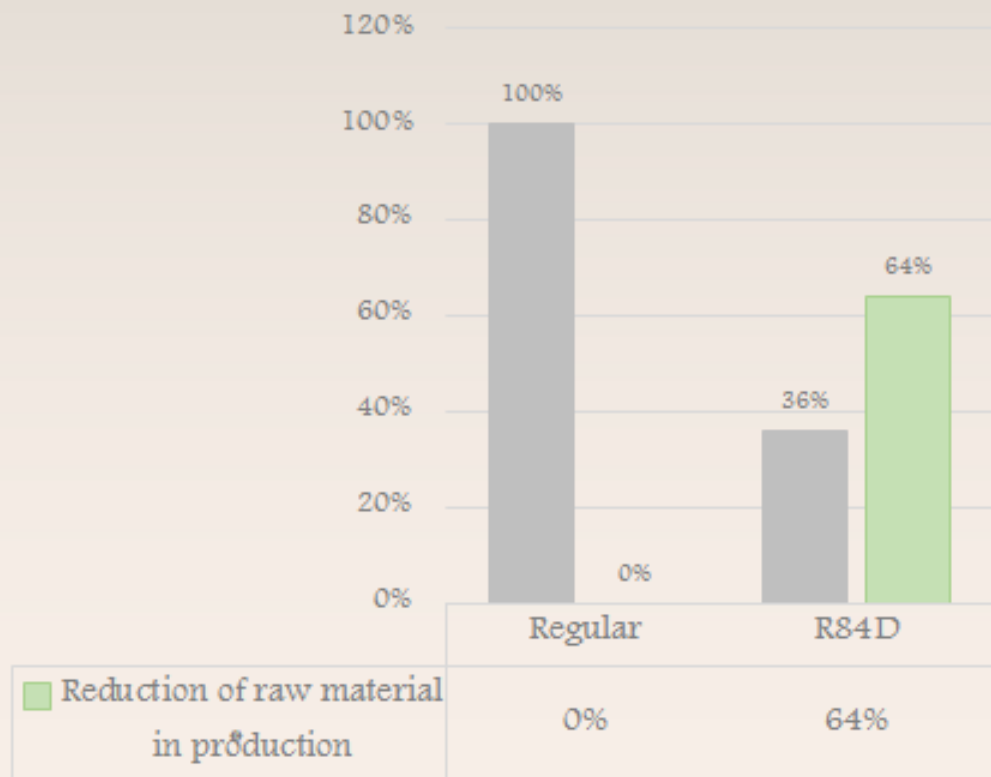
ROICA™ EF Chemical management

Asahi Kasei is following a Chemical Management System (CMS) and is following the GRS Prohibited Substance List, which was developed by the standard with the textile industry in mind.

This Chemical Management System (CMS) focuses on the approach, structure and documentation needed to create and support a Zero Discharge of Hazardous Chemicals (ZDHC) Programme. Information provided should be easily internalized by retailers, brands and their supply chain partners while accommodating the complexities of the ZDHC roadmap work and the textile supply chain chemistry applications. This framework will build on ISO management standards and other applicable frameworks, such as the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) Practical Chemical Management Toolkit and the Outdoor Industry Association (OIA) Chemicals Management Working Group (CMWG) Framework. A sound chemical management system is paramount to worker safety and will reduce environmental impacts on the community and the broader environment. A CMS is therefore one of the cornerstones for ensuring continuous improvement of zero discharge of hazardous chemicals throughout the life cycle of our products.

ROICA™ EF Raw material reduction

Comparison virgin-ROICA™ vs. GRS-certified-products ROICA™ R84D (22, 44, 78, 156 dtex)



*Production of raw material via crude oil/fossil raw material

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ROICA™ EF Waste Management

Comparison virgin - vs. GRS-certified-products ROICA™ R84D (22, 44, 78, 156 dtex)

	Regular	R84D
Waste Management		
Recovering of polymer waste in polymerization	0%	more than 50%
Recovering of yarn during spinning process	0%	more than 90%
During warping process	0%	more than 90%
By reuse of packing material**	0%	more than 90%



ROICA™ EF

Energy Savings

Comparison virgin- vs. GRS-certified-products ROICA™ R84D (22, 44, 78, 156 dtex)

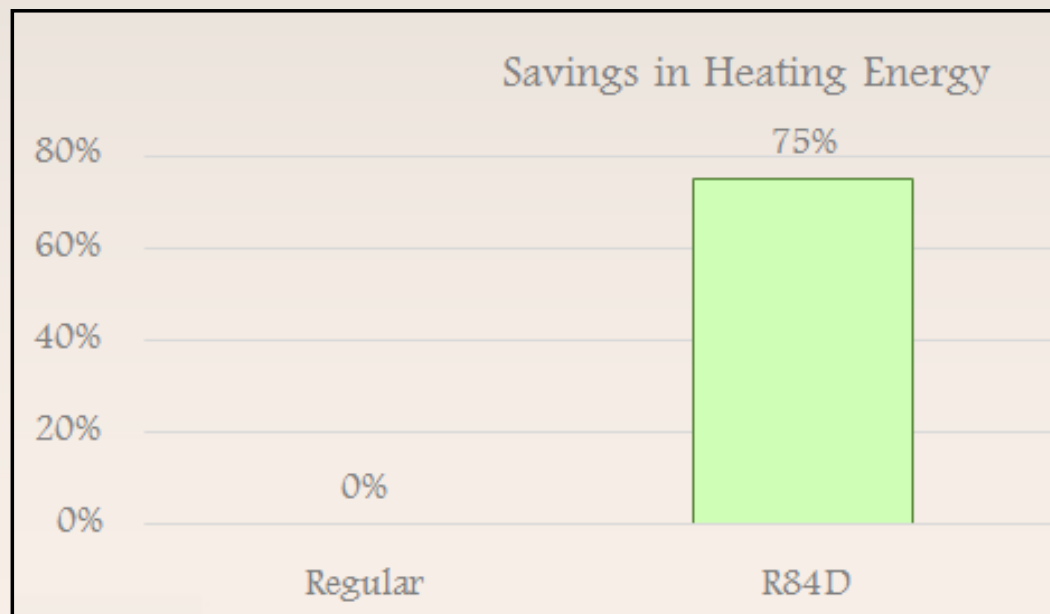
Heating energy (steam)
Saving in polymerization
vs. RCY-process

Regular

R84D

0%

75%



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ROICA™ EF Certificates

All products are tested for harmful substances according to Oeko-Tex Standard 100 product class 1 – baby class (Certificate 95.0.2838)

HOHENSTEIN Textile Testing Institute GmbH & Co. KG
Schloss Hohenstein, 74357 Bönnigheim, Germany

OEKO-TEX®
CONFIDENCE IN TEXTILES

CERTIFICATE

The company

Asahi Kasei Spandex Europe GmbH
ChemPark Dormagen
Gebäude E4
41538 Dormagen, GERMANY

is granted authorisation according to STANDARD 100 by OEKO-TEX® to use the STANDARD 100 by OEKO-TEX® mark, based on our test report 17.0.13361

for the following articles:

Elastane-filament-yarns Roica® B845, B846, B847, B835, C701, C804, C805, C845, D804, D820, D845, D847, D84W, D900, F804, K804, K845, K846, L845, L846, P845, P84B, P85B, R804, R84D, R845, U804, U84D, V550 und Dorlastan® D820, V410, V412, V550, D900, all transparent.

Note: Various tested fibres may contain more than 0.1% (but less than 3%) of DMAc (N,N-Dimethylacetamide) and have to be treated hot (in wet or in dry stage) during further processing. Afterwards new tests for the presence of DMAc (below 0.1%) are obligatory.

The results of the inspection made according to STANDARD 100 by OEKO-TEX®, Appendix 4, product class I have shown that the above mentioned goods meet the human-ecological requirements of the STANDARD 100 by OEKO-TEX® presently established in Appendix 4 for baby articles.

The certified articles fulfil requirements of Annex XVII of REACH (incl. the use of azo colourants, nickel release, etc.) as well as the American requirement regarding total content of lead in children's articles (CPSIA; with the exception of accessories made from glass).

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 95.0.2838 is valid until 30.06.2018

Bönnigheim, 29.06.2017

H. J. Schwan
Dipl.-Ing. (FH) Elisabeth Weinhart
Head of Certification Body Oeko-Tex®

OEKO-TEX®
CONFIDENCE IN TEXTILES
STANDARD 100
95.0.2838 HOHENSTEIN HTTI
Tested for harmful substances
www.oeko-tex.com/standard100



Control Union Certifications
P.O. Box 161, 8000 AD Zwolle, The Netherlands
http://www.controlunion.com
tel.: +31(0)38-4260100

CERTIFICATE OF COMPLIANCE

(Scope Certificate)

CERTIFICATE No: CU831661GRS-02.2017
REGISTRATION No: CU 831661

Control Union Certifications declares that
Asahi Kasei Spandex Europe GmbH
CHEMPark
Gebäude E4
41540 Dormagen
GERMANY

has been inspected and assessed according to the
Global Recycled Standard (GRS)
Version 3.0

and that products of the categories as mentioned below (and further specified in the annex) comply with this standard:

Yarns

Processing steps / activities carried out under responsibility of the above mentioned company (by the operations as detailed in the annex) for certified products:
Administration, Cutting, Dissolving, Packing, Spinning, Storage, Trading

This certificate is Valid until: 02 July 2018

Place and date of issue:
Zwolle, 15 June 2017

Name of authorised person
[Signature]

On behalf of the Managing Director
Mrs. C.D.J. Kleveringa - Beumer
Certifier

Stamp of the issuing body


Standard's Logo


This certificate cannot be used as a transaction certificate.
The issuing body can withdraw this certificate before it expires if the declared compliance is no longer guaranteed.

Certificate of Compliance, Page 1 of 3

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