

enhance

enhance

## CSL

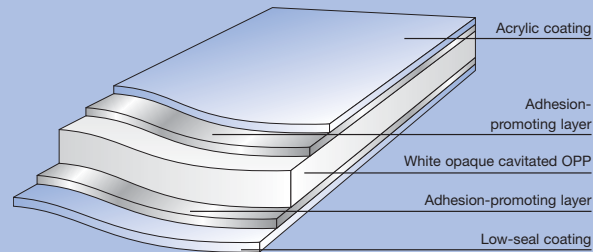
White opaque low-density OPP film, coating one side acrylic, one side with a special low-seal formulation, for food packaging

- Wide sealing range for high-speed HFFS capacity
- Easy convertibility
- Excellent optical properties
- Good barrier to moisture and aromas



## TREOFAN PACKAGING FILM CSL

White opaque low-density OPP film, on one side acrylic coating, one side with a low-seal coating



Treofan CSL has been especially designed for the food packaging industry. Treofan CSL, thanks to its wide operative window, can be used on high-speed HFFS machines as well as machines where frequent speed variations occur. Treofan CSL can be used as single web or in laminate structures, it is recommended for packaging bakery, biscuits and confectionery.

## PRODUCT FEATURES

Main properties:

- good moisture, aroma and light barrier
- excellent seal integrity in presence of contaminating agents
- only for fine-seal application (HFFS)
- excellent optical properties
- excellent printability on the acrylic side
- 100% water-based coating

## APPLICATIONS AND PROCESSING

Treofan CSL, thanks to its wide operative window on the fast HFFS, is recommended for the packaging of biscuits, bakery and confectionery and all products which need to be protected against loss of aroma, moisture and light.

Conversion:

- printable on the acrylic side with flexographic and rotogravure technologies. Adhesive lamination on the acrylic side with acrylic- or PVdC-coated films and other substrates

Storage:

- Treofan CSL has to be protected from water and from high levels of humidity. Place Treofan CSL in the processing area approximately 24 hours prior to processing

Certified according to

## DIN EN ISO 9001:2000

Compliance with industrial health and safety standards: Treofan OPP films do not present any significant danger to health and safety in the workplace, provided they are used for the intended purpose in accordance with conventional practices and that health and safety regulations are observed. Relevant guidelines can be found in our safety information.

## TECHNICAL DATA (typical values)

Properties	CSL 35	CSL 40	CSL 50	Unit	Measuring method
Nominal thickness	35	40	50	µm	–
Unit weight	25.7	29.3	36.6	g/m <sup>2</sup>	ISO 4591
Density	0.73	0.73	0.73	g/cm <sup>3</sup>	–
Yield	38.9	34.1	27.3	m <sup>2</sup> /kg	–
Tensile strength: machine direction transverse direction	70 180	70 180	70 180	N/mm <sup>2</sup> N/mm <sup>2</sup>	ASTM D 882 DIN 53455
Elongation at break: machine direction transverse direction	170 40	170 40	170 40	% %	ASTM D 882 DIN 53455
Dimensional stability: machine direction transverse direction	-3.5 -2.5	-3.5 -2.5	-3.5 -2.5	% %	130°C, 5 min 130°C, 5 min
Coefficient of friction (film/film)	0.30	0.30	0.30	–	ASTM D 1894 – DIN 53375
Heat-seal range: acr./acr. ls/ls	100–145 75–145	100–145 75–145	100–145 75–145	°C °C	10 psi, 0.2" (flat bar) BFA 10 psi, 0.2" (flat bar) BFA
Heat-seal strength: acr./acr. ls/ls	130 190	130 190	150 210	g/cm g/cm	Treofan Treofan
Water vapour transmission: 38°C/90% rh 23°C/85% rh	5.5 1.2	4.5 1.1	3.6 0.7	g/m <sup>2</sup> ·d g/m <sup>2</sup> ·d	ASTM F 1249 ASTM F 1249
Oxygen permeability: 23°C/75% rh	900	800	650	cm <sup>3</sup> /m <sup>2</sup> ·d	ASTM F 1927
Opacity	73	76	80	%	Gretag Macbeth D200-II
Gloss (acr.)	84	84	84	‰	ASTM D 2457

## AVAILABILITY (unprinted film)

Reel length (m):

Packaging film	Standard length	6-times standard
CSL 35	1,750	10,500
CSL 40	1,550	9,300
CSL 50	1,300	7,800

Maximum reel outside diameter (mm):

Core diameter	Standard length	6-times standard
76 mm	approx. 320	–
152 mm	approx. 340	approx. 780

Maximum reel width: 2,000 mm

Standard conditions: IS (low-seal) coating on the internal side

Tests have shown that under the prescribed storage conditions the characteristics of Treofan CSL will maintain consistent performance and will be best before use throughout a 6-months period after delivery. Treofan CSL is largely unaffected by climatic influences, but should not be stored at temperatures above 30°C (86°F). The rolls should be kept in their original wrapping until used. After the rolls have been unwrapped, they should be stored safely in horizontal position.

## Food Safety

Treofan CSL has been developed specially for packaging foods and meets the specific requirements on health and safety. It meets the FDA and EC regulations, which includes the specific "German Food and Commodity Act" and the current recommendations of the BfR. Compliance with other specific national regulations is available on request.

The figures and the data provided in this data sheet are consistent with the current state of our knowledge, and are intended to provide general information on our products and their applications. They do not constitute a guarantee of any specific product attributes or the suitability of products for specific applications. Any existing commercial rights or patents must be observed.

## HEADOFFICE TREOFAN GROUP

Treofan Germany GmbH & Co. KG  
Am Prime Parc 17  
65479 Raunheim, Germany  
Phone: +49 6142 200 200  
Fax: +49 6142 200 3299

## SALES CONTACTS

**Business Team Head Packaging**  
Phone: +49 6142 200 3265  
Fax: +49 6142 200 3299  
guido.bisch@de.treofan.com  
Contact: Guido Bisch

**Africa**  
Phone: +27 11 761 7617  
gunnar.vahlenkamp@za.treofan.com  
Contact: Gunnar Vahlenkamp

**Benelux**  
Phone: +33 5 5660 0994  
michel.malet@treofan.com  
Contact: Michel Malet

**Eastern Europe**  
Phone: +49 6142 200 3263  
peter.breburda@de.treofan.com  
Contact: Peter Breburda

**Export Treofan Group**  
Phone: +34 93 306 8327  
ignacio.velez@es.treofan.com  
Contact: Ignacio Velez

**Germany/Switzerland/Austria**  
Phone: +49 6142 200 3402  
urs.ulrich@de.treofan.com  
Contact: Urs Ulrich

**Iberica**  
Phone: +34 93 306 8327  
ignacio.velez@es.treofan.com  
Contact: Ignacio Velez

**Italy**  
Phone: +39 02 6718 7432  
sergio.arcari@it.treofan.com  
Contact: Sergio Arcari

**Mexico/Latin America**  
Phone: +52 436 363 8044  
Phone: +52 436 363 8115  
alfonso.flores@mx.treofan.com  
Contact: Alfonso Flores

**United Kingdom**  
Phone: +44 1793 34 4004  
carey.ashworth@uk.treofan.com  
Contact: Carey Ashworth

**USA/Canada**  
Phone: +1 336 766 9448  
grant.gustafson@us.treofan.com  
Contact: Grant Gustafson



[www.treofan.com](http://www.treofan.com)