ZEISS OVD Portfolio

The power of choice at every step
(EU version)

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ZEISS

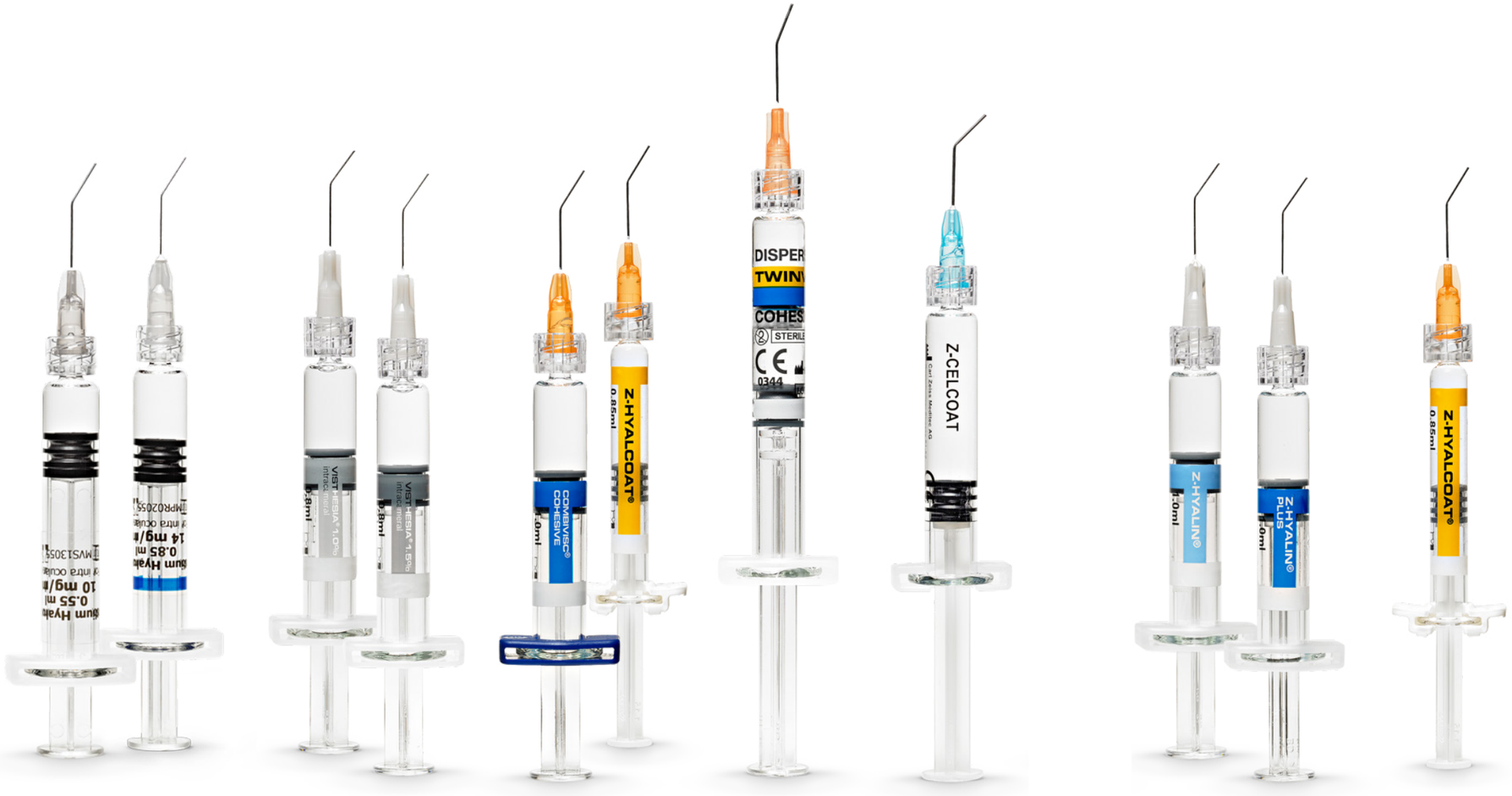
Seeing beyond

ZEISS OVD Portfolio

Supporting each step of the ophthalmic procedure

Based on 20+ years experience, development and production, ZEISS provides a state-of-the-art OVD portfolio that supports your work at each step of the ophthalmic procedure.

As ZEISS OVD and IOL technology comes from one experienced source, the products are perfectly aligned with one another. ZEISS not only strives to create high quality OVDs – the company also puts effort into environmental priorities such as offering multipack solutions. ZEISS OVDs originate from bacterial fermentation.[1]



Space maintenance, Protection, Clarity

The choice that matters

The selection of an OVD can impact the success of the ophthalmic surgery as well as the patient outcome. Therefore, choosing the right OVD is crucial – especially in challenging cases. The main function of an ophthalmic viscosurgical device is to protect the endothelial cells at each step of the surgery. There are various types of OVDs serving this purpose in a different manner.

Viscous-cohesive products
This type of OVDs are very good at space creation and maintenance due to their higher viscosity and molecular weight. Therefore, they can minimize the interaction between instrument and tissue and absorb shock during phacoemulsification. This way, they can protect the delicate tissues in the anterior chamber.

Lower viscosity dispersive products
This category of OVDs coat the endothelial cells during all surgical maneuvers due to their low degree of cohesiveness. Through their protecting layer, they provide safety for the endothelium.

Great surgical clarity has been traditionally provided by both categories in order to enable excellent vision during surgery.

In cases that take longer or require significant manipulation of the ocular tissues, an extra protection can improve postoperative endothelial cell count and corneal clarity. Therefore, a dual OVD could offer the best for all surgical needs in the OR.

The power of choice at every step
More options for you

ZEISS provides a wide range of innovative ophthalmic viscosurgical devices that fully support the surgical workflow – giving you the choice to select the OVD that best matches each individual ophthalmic case.

The ZEISS OVD portfolio includes:

- A unique 2-in-1 solution - a viscous-cohesive OVD with ancillary anesthetic: **VISTHESIA®**
- Dual viscosity OVDs – in two separate syringes: **COMBIVISC®** or both in one syringe: **TWINVISC®**
- For protection of the endothelium and other tissue – low-viscosity and medium-viscosity dispersive OVDs: **Z-CELCOAT®** and **Z-HYALCOAT®**
- For space creation and maintenance – viscous-cohesive OVDs: **Z-HYALIN®**, **Z-HYALIN plus** and **Z-HYALON®**
- For extensive space creation and maintenance – a super-viscous cohesive OVD: **Z-HYALON plus**

Overall comforter

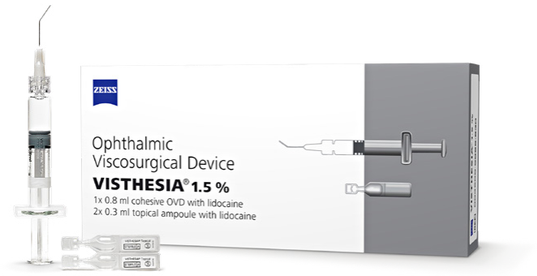
VISTHESIA[2] / VISTHESIA intra

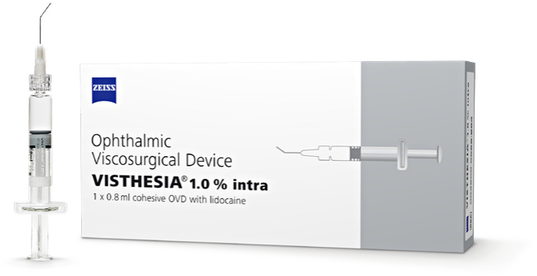
More comfort through pain relief even in prolonged surgery
The first and only OVD offering ancillary anesthetic and a viscous-cohesive ophthalmic viscoelastic combined in one solution.

Topical ampules
Preoperative topical application containing sodium hyaluronate (0.3%) with lidocaine (2%) that coats and hydrates the epithelial cells supporting clear vision into the eye.

Intracameral viscous-cohesive OVD

- Containing sodium hyaluronate in a concentration of 1% and 1.5%, both with lidocaine (1%)
- Effective space creation and maintenance in the anterior chamber
- Ensuring even dispersion of lidocaine throughout the eye to all tissues
- Providing endothelial protection[3] and pupil dilation[4]
- 2-in-1 solution saving time and preparation steps, since a separate intracameral anesthetic is not required





Multitalents

COMBIVISC

The perfect match of two OVDs for the entire surgery
Providing the optimal combination of a viscous-cohesive and a medium-viscosity dispersive OVD in two separate syringes. Giving you the space and protection you need in standard and complex cases – with fast and easy removal.

Cohesive part (contains Z-HYALIN plus)

- Highly effective for space creation and maintenance in the anterior chamber[5]
- Good capsular bag inflation
- Optimal chamber retention
- Ease of injection[5]
- Fast and easy removal[6]

Dispersive part (contains Z-HYALCOAT)

- Reliable protection of the endothelium during various surgical maneuvers
- Great space partition
- Excellent optical clarity[7]
- Ease of injection
- Short aspiration time[6]

TWINVISC

Two OVDs, one device for each stage of the surgery Combining a medium-viscosity dispersive and a viscous-cohesive viscoelastic in one syringe separated by an innovative bypass stopper system for a planned sequential injection. Providing an easy and unique approach to the soft-shell-technique.[8]

- Reliable protection of the endothelium and other tissues during various surgical maneuvers
- Highly effective space creation and maintenance in the anterior chamber during IOL implantation[8]
- Great retention during phacoemulsification[9]
- Excellent optical clarity[9]
- Ease of injection
- Fast and easy removal[9]

Protecting layers

ZEISS provides two different OVDs to coat the delicate ocular tissues giving you the freedom to choose between a moderate and a comprehensive solution.

Z-CELCOAT

Low-viscosity dispersive OVD (HPMC) – providing protection in surgery

- Protection of the endothelium through coated ocular tissues during various surgical maneuvers[10]
- Good space partition
- Well suited as lubricant for intraocular lenses and instruments
- Available in large volume syringe (2.1 ml)
- Multipack option (pack of 10 pc)

Z-HYALCOAT

Medium-viscosity dispersive OVD – a safeguard in surgery

- Reliable protection of the endothelium during various surgical maneuvers
- Great space partition
- Excellent optical clarity[7]
- Short aspiration time[6]
- Available in large volume syringe (0.85 ml)
- Multipack option (pack of 10 pc)

Space creators

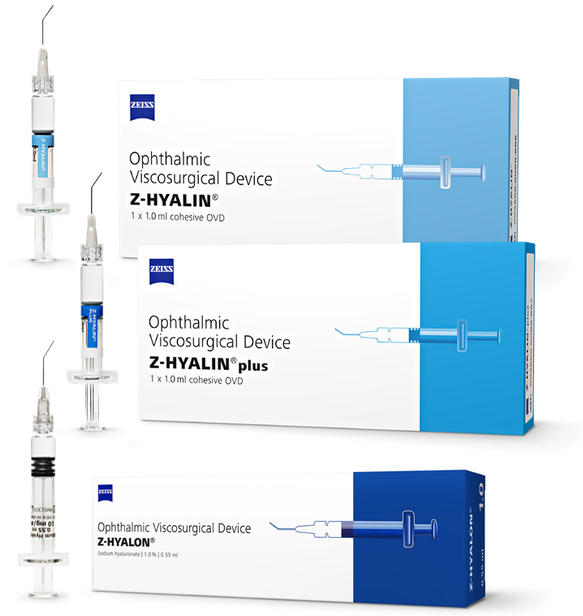
ZEISS offers different levels of viscous-cohesive OVDs with increasing viscosity and subsequently varying space creation and maintenance. This product range allows you to pick the best fit for your surgical and patient needs.

Z-HYALIN, Z-HYALIN plus & Z-HYALON

Viscous-cohesive OVDs- with versatility in space maintenance

- Varying effectiveness of space creation and maintenance in the anterior chamber as a result of increases in molecular weight (see table on page 10, Zero-shear viscosity)
- Good to very good capsular bag inflation
- Optimal chamber retention
- Smooth injection
- Fast and easy removal
- Available in high volume syringes (1ml, 1ml, 0.55ml / 0.85 ml)
- Multipack option (pack of 10 pc)*

* Only applies to Z-HYALIN and Z-HYALIN plus



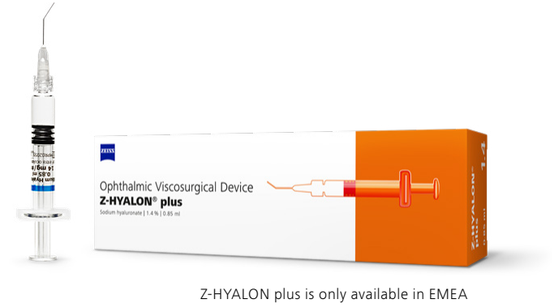
Z-HYALON is only available in EMEA

Z-HYALON plus

Super-viscous cohesive OVD- reliability and efficiency in challenging cases

- Provides maximum intraocular stability with excellent space creation and maintenance due to super high molecular weight
- Very good capsular bag inflation
- Faster and easier removal as a single mass
- Very easy injection
- Optimal optical clarity
- Smaller, space-saving packaging and storage at room temperature for efficiency**
- Available in 0.55 and 0.85ml syringe volumes

** Also applies to Z-HYALON



Z-HYALON plus is only available in EMEA

General Information

Product name	Classification	Singlepack content	Multipack content	Origin	Volume (ml)	Substance	Concentration I (%)	Concentration II (mg/ml)
Overall comforter								
VISTHESIA 1.0%	Viscous-cohesive	1 x intracameral syringe 1 x 27 G cannula 2 x topical ampules (see below*)	–	Bacterial fermentation	0.8	Sodium Hyaluronate Lidocaine Hydrochloride	1.0 1.0	10 10
VISTHESIA 1.5%	Viscous-cohesive	1 x intracameral syringe 1 x 27 G cannula 2 x topical ampules (see below*)	–	Bacterial fermentation	0.8	Sodium Hyaluronate Lidocaine Hydrochloride	1.5 1.0	15 10
***VISTHESIA topical ampule**[11]	n/a	2 x topical ampules	–	Bacterial fermentation	2 x 0.3	Sodium Hyaluronate Lidocaine Hydrochloride	2 x 0.3 2.0	2 x 3 20
VISTHESIA 1.0% intra[12]	Viscous-cohesive	1 x intracameral syringe 1 x 27 G cannula	–	Bacterial fermentation	0.8	Sodium Hyaluronate Lidocaine Hydrochloride	1.0 1.0	10 10
VISTHESIA 1.5% intra[12]	Viscous-cohesive	1 x intracameral syringe 1 x 27 G cannula	–	Bacterial fermentation	0.8	Sodium Hyaluronate Lidocaine Hydrochloride	1.5 1.0	15 10
Multitalents								
COMBIVISC	Viscous-cohesive	1 x intracameral syringes 1 x 25 G cannulas	5 x intracameral syringes 5 x 25 G cannulas	Bacterial fermentation	1.0	Sodium Hyaluronate	1.5	15
	Medium-viscosity dispersive	1 x intracameral syringes 1 x 25 G cannulas	5 x intracameral syringes 5 x 25 G cannulas	Bacterial fermentation	0.85	Sodium Hyaluronate	3.0	30
TWINVISC	Medium-viscosity dispersive	1 x two-chamber intracameral syringe 1 x 25 G cannula	–	Bacterial fermentation	0.7	Sodium Hyaluronate	2.2	22
	Viscous-cohesive		–	Bacterial fermentation	0.7	Sodium Hyaluronate	1.0	10
Protecting layers								
Z-CELCOAT	Low-viscosity dispersive	1 x intracameral syringe 1 x 23 G cannula	10 x intracameral syringes 10 x 23 G cannulas	Botanical	2.1	Hydroxypropyl-methylcellulose	2.0	20
Z-HYALCOAT	Medium-viscosity dispersive	1 x intracameral syringe 1 x 25 G cannula	10 x syringes 10 x 25 G cannulas	Bacterial fermentation	0.85	Sodium Hyaluronate	3.0	30
Space creators								
Z-HYALIN	Viscous-cohesive	1 x intracameral syringe 1 x 27 G cannula	10 x intracameral syringes 10 x 27 G cannulas	Bacterial fermentation	1.0	Sodium Hyaluronate	1.0	10
Z-HYALIN plus	Viscous-cohesive	1 x intracameral syringe 1 x 27 G cannula	10 x intracameral syringes 10 x 27 G cannulas	Bacterial fermentation	1.0	Sodium Hyaluronate	1.5	15
Z-HYALON	Viscous-cohesive	1 x intracameral syringe 1 x 27 G cannula	–	Rooster comb	0.55 or 0.85	Sodium Hyaluronate	1.0	10
Z-HYALON plus	Super-viscous cohesive	1 x intracameral syringe 1 x 27 G cannula	–	Rooster comb	0.55 or 0.85	Sodium Hyaluronate	1.4	14

Technical Information

Product name	Molecular weight (megadalton)[13]	Zero-shear viscosity (Pa s)[14]	CDI	Pseudo-plasticity	Osmolality (mOsmol/kg)	Storage temperature (°C)
Overall comforter						
VISTHESIA 1.0%	2.9	72	39	75	280–330	2–8
VISTHESIA 1.5%	2.9	295	44	133	280–330	2–8
VISTHESIA Topical ampule[11]	2.9	1	n/a	n/a	270–320	2–8
VISTHESIA 1.0% intra[12]	2.9	72	39	75	280–330	2–8
VISTHESIA 1.5% intra[12]	2.9	295	44	133	280–330	2–8
Multitalents						
COMBIVISC	Cohesive 2.9	Cohesive 295	Cohesive 44	Cohesive 133	Cohesive 300–360	2–8
	Dispersive 1.0	Dispersive 47	Dispersive 39	Dispersive 10	Dispersive 300–360	2–8
TWINVISC	Dispersive 1.0	Dispersive 14	Dispersive 26	Dispersive 8	Dispersive 300–360	2–8
	Cohesive 2.1	Cohesive 18	Cohesive 36	Cohesive 18	Cohesive 300–350	2–8
Protecting layers						
Z–CELCOAT	0.08	7	–	–	265–300	2–30
Z–HYALCOAT	1.0	47	18	10	300–360	2–8
Space creators						
Z–HYALIN	2.9	72	39	75	300–350	2–8
Z–HYALIN plus	2.9	295	44	133	300–360	2–8
Z–HYALON	5.0	1.000	–	–	200–400	2–25
Z–HYALON plus	5.0	3.300	–	–	200–400	2–25

All OVDs are phthalate free and have a pH range between 6.8 and 7.6.
The shelf life for all OVDs is 3 years except for TWINVISC, which has a shelf life of 2 years.

"The combination of complementary dispersive and cohesive products, the use of a single syringe and the innovative Bypass system of TWINVISC offer a performing, protecting and easy to use OVD for the surgeon, whatever the surgical technique and the incision size."

Dr. Thierry AMZALLAG, MD
Somain, France, Ophthalmic Institute of Somain

* Only applies to Z-HYALIN and Z-HYALIN plus
** Also applies to Z-HYALON
[1] Except: Z-HYALON, Z-HYALON plus, Z-CELCOAT
[2] VISTHESIA 1.0% and VISTHESIA 1.5% are not for sale in the UK or Portugal
[3] F. Poyales-Galan, G. Pirazzoli: Clinical Evaluation of Endothelial Cell Decrease with VISTHESIA In: Phacoemulsification Surgery. JCRS Vol. 31, Nov. 2005
[4] S. K. Pandey et al.: Evaluation of the cataractgenic effect of viscoanesthetic solutions on the rabbit crystalline lens. JCRS Vol. 31, July 2005
[5] Harry Domack: Z-HYALIN Plus: A Versatile Cohesive Agent. Cataract & Refractive Surgery Today, Europe, July/August 2011
[6] S. A. Arshinoff, M Jafari: New classification of ophthalmic viscosurgical devices. JCRS Vol. 31, Nov. 2005
[7] W. W. Hütz et al.: Comparison of viscoelastic substances used in phacoemulsification. JCRS Vol. 22, Sept. 1996
[8] ZEISS: TWINVISC – Two OVDs, one syringe, a unique concept (User testimonial by S. Arshinoff), 2011
[9] G. U. Auffahrt et al.: Comparison of the performance and safety of 2 ophthalmic viscosurgical devices in cataract surgery. JCRS Vol. 43, Jan. 2017
[10] A. D. Steele, V. Andrews: Methylcellulose for endothelial cell protection. Australian and New Zealand Journal of Ophthalmology Vol. 16, 1988
[11] Not available individually; only available with VISTHESIA 1.0% or 1.5%
[12] VISTHESIA intra version does not contain 2 topical ampules
[13] Megadalton = 1 million Dalton
[14] 1Pa s = 1000 mPa s

CE 0344

VISTHESIA 1.0%
VISTHESIA 1.5%
VISTHESIA 1.0% intra
VISTHESIA 1.5% intra
COMBIVISC
TWINVISC
Z-HYALCOAT
Z-HYALIN
Z-HYALIN plus

CE 0297

Z-CELCOAT

CE 0483

Z-HYALON
Z-HYALON plus

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