

# File Specification Lens Product Catalogue - Version 6.7.4

as at 29.07.2004



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# 1 Introduction

The following file descriptions for version 6.7.4 of the **Lens Product Catalogue** is a development from the standard format in version 4. The new file format is intended to give the best possible portrayal of the product ranges available from lens manufacturers.

The format of the catalogue has been checked for its functionality in the major European markets and has been brought in line with DIN and ISO standards. It is expected to become a usable and effective standard for the whole of Europe.

The format is open to change and with the support of all users (lens manufacturers and software producers), it will continue to grow and develop. Although the current version is considered to be a fully developed system, deficiencies might still arise. In this respect, an internet forum has been set up, <http://www.glaeserforum.de>, where queries from lens manufacturers and software producers can be posted. This forum can be used for questions concerning data content as well as any suggestions regarding improvements. Discussions within this forum will eventually be incorporated into this document.

Current file descriptions for this and other file formats relevant to opticians can be downloaded from <http://www.fosa.optik.de>.

## 2 General specifications

### 2.1 Version validity and downward compatibility

The current version is 6.7.4. Minor changes, with downward compatibility, are shown in the third position of the version number. If a new field is included in a table without any change to existing fields, then the version number would, for example, change from 6.5.1 to 6.5.2. Changes to the format, requiring minor changes to the various software packages, are shown in the second position of the version number, e.g. version 6.5.5 to 6.6.0. Any new structuring and definition of the format (e.g. XML) will be apparent in the first digit of the version number, e.g. 7.0.0.

### 2.2 Data record length and separators

Text data in the following file descriptions uses the character encoding standard ISO 8859-1. (see "[http://en.wikipedia.org/wiki/ISO\\_8859-1](http://en.wikipedia.org/wiki/ISO_8859-1)")

Records are separated by the control characters CR (ASCII 13) and LF (ASCII 10). In order to ensure better downward compatibility, there is no fixed record length. Newly defined data fields can simply be added to the existing format structure. Software products not adapted to the most recent format will therefore still be able to import it.

Records are made up of fields of fixed lengths without any separator character.

### 2.3 Field specifications

**Text fields** (format T) are left justified stored with trailing spaces (ASCII 32).

**Numerical values** (format 9.. or B) are right justified with leading zeroes and without a decimal point. SPACE is interpreted as "0". (Exceptions are the price fields in LensPrice.Dat and OptionsPrice.Dat, where a blank purchase price field is interpreted as "price on request" and a blank retail price field means that no recommended retail price exists and has to be calculated by the optician himself).

**Date fields** (format D) in the format Year (4-digits), Month (2-digits) and Day (2-digits): Format YYYYMMDD. Optional date fields may be represented by SPACES.

**Boolean fields** are defined as 0=No and 1=Yes. SPACE is interpreted as "0". Other definitions are explained in the tables.

Fields that make up a primary key are marked with '\*'. A primary key in a file cannot be repeated. Furthermore, it is required that records are sorted according to the primary key.

### 2.4 Product definition using GPL standard, ordering compatibility

A product is identified by a definable and unique manufacturer order code. A distinction is made between basic lens products and options (coatings). It is assumed that by defining products in this way, with the inclusion of diameters and lens power, ordering procedures can be transferred to the manufacturer's own ordering system.

## **2.5 Consistency rules**

Primary key attributes must be adhered to. A primary key may not occur in more than one record in any file.

All basic lens codes occurring in the files LensPrice.Dat, Combination.Dat, LensRange.Dat, LensGeo.Dat, Information.Dat and OeCodes.Dat, must be defined in LensType.Dat.

All option codes occurring in the files OptionsColor.Dat, OptionsPrice.Dat, Combination.Dat, LensRange.Dat, Information.Dat und OeCodes.Dat must be defined in Options.Dat.

All option indexes used in the file OptionsPrice.Dat must be defined in LensType.Dat.

All range indexes used in the file LensPrice.Dat must be defined in LensRange.Dat.

The product names given in the files LensType.Dat, Options.Dat, and OptionsColor.Dat must be unique within each file, despite not being part of the primary key.

### 3 Manufacturer abbreviations

To avoid any confusion occurring between the separate price lists, manufacturer abbreviations are recorded in the Head.Dat file. The abbreviations must be unique for each manufacturer and user. The following list shows the abbreviations already being used for the various lens manufacturers.

<b>Abbreviation</b>	<b>Manufacturer</b>
AO	American Optical
EMO	Emmerich Optik
ESS	Essilor
HLD	Hoya Lens
IN	Indo
KNE	Knecht
MMS	Metzler Mailshop
NI	Nikon
NIK	Nika
NOH	Nordhorn Optik
NOR	Norville
NOV	Novacel
OGE	Optik Ges.m.b.H
OPH	Ophthalmica
OPT	Optovision
OSW	Optiswiss (CH)
PEN	Pentax
REI	Reize Optik (CH)
R+H	Rupp & Hubrach
ROD	Rodenstock
SCE	Schulz
SCH	Schneider Optische Werke
SEI	Seiko
SAO	Signet Armorlite
SO	Sola
SV	Starvision
STR	Stratemeyer
TOE	TOE
WET	Wetzlich
CZ	Zeiss (D, Lux)

## 4 Software

The following software products listed here can be used with the price list data. A unique ID is given for each software product. This ID is contained in the Head.Dat file.

Glaspreislisteneditor 6.x

Supplier:  
COMCEPT GmbH  
Hauptstraße 50  
51143 Köln



## 5 Data structure

### 5.1 General

Price list data is held in a total of 11 files. **On delivery all files must be saved together in ZIP archive format.**

### 5.2 File names within the ZIP format

File name	Contents
Head.Dat (page 11)	General information on manufacturer and price list as well as cylinder and prism group definition. Parameters occurring only once can also be defined here
LensType.Dat (page 15)	Specifications of basic lenses. Products are identified by a unique manufacturer code
LensRange.Dat (page 17)	Production range and availability for products and product combinations
LensGeo.Dat (page 20)	Describes the geometry of each lens including lens reference point and line location
LensPrice.Dat (page 22)	Basic lens prices for ranges and available options
Options.Dat (page 23)	Specifies optional extras in production and color groups. Products are identified with a unique manufacturer code
OptionsColor.Dat (page 25)	Specifications of individual colors for each color product
OptionsPrice.Dat (page 27)	Prices for extras in Options.dat as well as for higher and prismatic ranges
Combination.Dat (page 28)	Information on restrictions concerning combinations of optional extras
Information.Dat (page 34)	Additional product information
OeCodes.Dat (page 36)	Erfa and OPC codes for lenses and coatings

### 5.3 Determining the ZIP file name

The ZIP file name is determined as follows:

manufacturer code -manufacturer sub code - country code - valid from  
- version.zip

Example: HLD-IGA-DE-20040401-1.zip

The "version" is the next consecutive number beginning at 1.

If no manufacturer sub code exists then it is left blank in the file name.

Example: HLD--DE-20040401-1.zip

The country code is determined according to **ISO 3166-1 ALPHA-2**.

'See also [http://en.wikipedia.org/wiki/ISO\\_3166\\_Kodierliste](http://en.wikipedia.org/wiki/ISO_3166_Kodierliste)

#### **5.4 Manufacturer specific data**

It is possible that the following specifications do not permit the full product range of a manufacturer to be described. In such instances, it is possible to integrate a manufacturer specific file format.

However, to date no manufacturer specific data exists.

## 6 The “Head.Dat” file

### 6.1 Description

The Head.Dat file stores all data occurring only once within the data set.

### 6.2 Table structure

No.	Field name	Pos	Length	Format	Comments
1*	Field name	1	30	T30	The field names are listed below.
2	Field value	31	??		The field length is dependent on the value of the field. A field's format (and therefore its length) is defined under 6.2.

### 6.3 Field names

No.	Name	Format	Description/comments
1	version	T10	The data format version. The value of this version is “6.7.4” (without quotes)
1a	Software-id	T40	Unique name incl. the software version with which the price list data is created
1b	comment	T200	Brief comments on the price lists
1c	uid-manufacturer	T50	Lens manufacturer number to uniquely identify the data set
1d	uid-postedit	T50	Follow-up work number to uniquely identify the data set
2	Valid-from	D	
3	Valid-until	D	Blank, if no valid until date specified.
4	country	T2	2-letter code according to the <b>ISO 3166-1 ALPHA-2</b> standard DE = Germany FR = France NL = Netherlands etc.
5	manufacturer-code	T3	Manufacturer abbreviations are given in chapter 3 above
5a	manufacturer-subcode	T3	Used when a manufacturer has more than one price list (e.g. purchasing syndicates)
6	manufacturer-name	T40	
7	manufacturer-name-1	T40	Mailing address Name1
8	manufacturer-name-2	T40	Mailing address Name2
9	street	T40	
10	zip-code	T8	
11	city	T40	

12	po-box-zip-code	T8	
13	po-box-text	T40	
14	phone	T40	
15	fax	T40	
16	phone-order	T40	
17	fax-order	T40	
18	mail	T40	
19	URL	T40	
20	pricedefinition-cylinder	T1	“+” = prices for plus cylinders. “-” = prices for minus cylinders.
21	cylindergroup-base	9	Standard = 4 dpt
22	cylindergroup-1	9	Standard = 6 dpt
23	cylindergroup-2	9	Standard = 8 dpt
24	prismgroup-1	99	Standard = 03
25	prismgroup-2	99	Standard = 06
26	prismgroup-3	99	Standard = 10
27	prismgroup-4	99	Standard = 15
28	prismgroup-5	99	Standard = ' '
29	currencydescription	T3	EUR, or the currency of the country in question.
30	currencydescription-decimals	T3	Ct, or the currency of the country in question.
31	pricefield-01	99	00 = not used 10 = purchase price 20 = recommended retail price 21 = recommended retail price incl. insurance 40= bonus purchase price 50 = retail price (price of materials incl. processing/labor costs or calculated retail price) 51 = retail price (material costs only) 52 = processing/labor 90 = other purchase price 91 = other retail price  (for values 90, 91: description given in field “pricefield-description-01”)
32	pricefield-02	99	As in pricefield-01
33	pricefield-03	99	As in pricefield-01
34	pricefield-04	99	As in pricefield-01
35	pricefield-05	99	As in pricefield-01
36	pricefield-description-01	T40	If the value in pricefield-01 = 90 or 91, then it will be clearly stated here what type of price it concerns
37	pricefield-description-02	T40	See comments under pricefield-description-01

38	pricefield-description-03	T40	See comments under pricefield-description-01
39	pricefield-description-04	T40	See comments under pricefield-description-01
40	pricefield-description-05	T40	See comments under pricefield-description-01

## 6.4 Example:

```

123456789012345678901234567890123456789012345678901234567890
version                6.7.4
valid-from             20031210
valid-until            20031210
country                DE
manufacturer-code      GLK
manufacturer-subcode   EKG
manufacturer-name      Glasfabrik Köln
manufacturer-name-1
manufacturer-name-2
street                 Musterstrasse 23
zip-code               51143
usw.....

```

(Note: the underlined numbers above are just to make the example easier to read and do not appear as such in the file.)

## 6.5 Notes

The version is always written in the format x.y.z, where x=major version, y=minor version and z=sub minor version. The numbers are not restricted to single digit format (e.g. 6.6.23 is possible).

Five price fields are defined, "pricefield-xx", which give the type of the price defined in LensPrice.Dat and OptionsPrice.Dat. If the value in "pricefield-xx" = 00 or the price field does not exist as record in the Head.Dat file, then no price is available in LensPrice.Dat or OptionsPrice.Dat. If a value does exist in "pricefield-xx" then the prices must be set in LensPrice.Dat or OptionsPrice.Dat, i.e. a record must exist there.

"pricedefinition-cylinder" indicates whether the prices groups for lenses are represented as plus or minus cylinders. This format has been developed for international use because of the differences existing between countries.

## 6.6 Higher cylinders

The fields „cylindergroup-base“, „cylindergroup-1“ and „cylindergroup-2“ in the Head.Dat file are there to administer a standard surcharge for cylinders, from a particular value, for „all“ lenses.

These fields can have the following values:

cylindergroup-base = 4  
cylindergroup-1 = 6  
cylindergroup-2 = 8

The surcharges for `cylindergroup-1` and `cylindergroup-2` are located under the EDP code Z2 or Z3 in the `OptionsPrice.Dat` file, see chapter .

As a rule, lenses are given a price group with a cylinder at a maximum of that defined in `cylindergroup-base`.

Example:

Sph/Cyl

6/0

6/2

6/4

The price group 6/6 is not necessary because the surcharge for “higher cylinders” can be used.

Example: to determine the price for a lens with the values sph:5,25 dpt / cyl:5,50 dpt the price for price group 6/4 is used with the price from `Options.dat` with the EDP code “Z2” being added to it.

If the surcharge, defined in `cylindergroup-1` and `cylindergroup-2` or “Z2” and “Z3”, does not apply for a particular lens, then price groups can be used with the corresponding higher cylinder group in the file “`LensPrice.Dat`” (e.g. 6/6). As soon as a price group exists with the corresponding higher value (above the value in `cylindergroup-base`), this price will automatically be used for determining the price and the surcharge for higher cylinders will be ignored.

Note that it is always the power range, given in the file “`LensRange.Dat`”, that determines the availability of a lens.

## 7 The file “LensType.Dat”

### 7.1 Description

The file LensType.Dat contains the basic lenses available from a particular manufacturer.

### 7.2 Table structure

No.	Field name	Pos	length	Format	Comments
1*	Basic lens manf. code	1	6	T6	
2	Name	7	40	T40	Must be unique and can not be used for more than one EDV code
3	Available from	47	8	D	blank = only restricted by “Available until ” field”
4	Available until	55	8	D	blank = no expiry date
5	unifocal / multifocal	63	1	9	0=unifocal 1=bifocal 2=trifocal 3=progressive lens 4=office lens
6	Balancing lens	64	1	9	0 = not available as balancing lens 1 = available as balancing lens
7	Balancing lens pricing terms	65	3	999	Balancing lens cost - xxx % of original price
8	Balancing lens terms for coatings	68	3	999	Coatings for balancing lens cost - xxx % of original price
9	Standard / brand	71	1	9	0=standard 1=brand 2=eco
10	Material	72	1	9	1=silicate 2=plastic 3=polycarbonate 4=Trivex <sup>®</sup>
11	Refractive index	73	5	99999	9.9999
12	Density	78	3	999	9.99 g/cm <sup>3</sup>
13	Abbe value	81	4	9999	99.99
14	Aspheric lens	85	1	B	
15	Cataract lens	86	1	B	
16	AR coating	87	1	9	0=none 2=single AR 5=multi AR 8=Super AR
17	Color	88	1	9	0=none 1=filter<15% Absorption 2=color
18	Photochromic	89	1	B	
19	Incl. hard coating	90	1	B	
20	Incl. clean coating	91	1	B	

<b>No.</b>	<b>Field name</b>	<b>Pos</b>	<b>length</b>	<b>Format</b>	<b>Comments</b>
21	Incl. UV coating	92	1	B	
22	Mirror incl.	93	1	B	
23	Incl. MDM	94	1	B	
24	Incl. smaller diameters	95	1	9	0=no 1=yes 2=no extra cost for smaller or central diameter in plus range
25	Incl. differing thicknesses	96	1	B	
26	Incl. insurance	97	1	B	
27	Incl. prism	98	1		If 1 then a prism available for all power ranges at no extra cost
28	Filter category	99	1	9	0 to 4 according to DIN EN ISO 8930-3
29	Restrictions for driving	100	1	9	See
30	UV-cutoff	101	3	999	999nm
31	UV-A transmission	104	4	9999	99,99%
32	UV-B transmission	108	4	9999	99,99%
33	Extended guarantee	112	1	B	
34	Single lens order	113	1	9	0=not possible 1=possible 2=possible with fictitious second lens
35	Traveler service	114	1	B	

### 7.3 Notes

Important: The assignment of numbers to materials has changed:

The following now applies:

1=mineral 2=plastic 3=polycarbonate 4=Trivex<sup>®</sup>

SF4 were assigned as follows and are **no longer valid**:

0=mineral 1=plastic 2=composite 3=polycarbonate

The renumbering was to give consistency in the numbering for lenses and coatings.



## 8 The file “LensRange.Dat”

### 8.1 Description

The LensRange.Dat file contains information on the products and ranges available for each basic lens and diameter. For any one basic lens of a given diameter, there can be any number of ranges. If more than one range record is defined for a diameter, the lens can be supplied as long as the conditions are fulfilled for at least one of the records (irrespective of whether or not a diameter is given).

### 8.2 Table structure

No.	Field name	Pos	Length	Format	Comments
1*	Basic lens manf. code	1	6	T6	
2*	Diameter	7	4	9999	7080 or 2-digit with 2 following spaces
3*	Elliptic	11	1	T1	Space= spherical “E”= elliptic
4*	Highest principle meridian from	12	5	+9999	+99.99
5*	Highest principle meridian to	17	5	+9999	+99.99
6*	Cylinder from	22	4	9999	99.99
7*	Cylinder to	26	4	9999	99.99  Be aware of the value in the “pricedefinition-cylinder” field in the Head.Dat file. If a minus cylinder is given then the value in this field must be a negative. No sign is given. (This also applies to field 6 - Cylinder from)
8*	Cylinder power to highest principle meridian” %	30	3	999	0 to 100%, see 17.2
9*	Cylinder power to “Highest principle meridian” %	33	3	999	0 to 100% see 17.2
10*	Prism to	36	4	9999	99.99 cm/m
11*	Add from	40	4	9999	99.99 dpt
12*	Add to	44	4	9999	99.99 dpt
13	Add stage	48	1	9	1=1.00 dpt 2=0.50 dpt 4=0.25 dpt 8=0.125 dpt
14*	Manf. code coating 1	49	6	T6	Code from Options.Dat
15*	Manf. code coating 2	55	6	T6	Code from Options.Dat
16*	Manf. code coating 3	61	6	T6	Code from Options.Dat

<b>No.</b>	<b>Field name</b>	<b>Pos</b>	<b>Length</b>	<b>Format</b>	<b>Comments</b>
17*	Manf. code coating 4	67	6	T6	Code from Options.Dat
18*	Manf. code coating 5	73	6	T6	Code from Options.Dat
19	Price for "Manf. code coating 1-5" included in lens price	79	1	B	Only applies to coatings with wildcards "*****", see ( )
20	Available from	80	8	D	blank= only restricted by "Available to"
21	Available until	88	8	D	blank= no expiry date
22	Stock lens	96	1	B	
23	Delivery time	97	3	999	Delivery time in hours 0=no entry
24	Extended range	100	1	B	0=standard range 1=extended range
25	Bonus	101	1	B	
26	RAS discount	102	1	B	1= discount given when ordered by Remote Access Service
27	Online ordering possible	103	1	B	
28	Range index - lens	104	3	999	Index for determining lens price

### 8.3 Notes

Supplementary products already contained within the basic lens are not defined in the LensRange.Dat file. Only price variations and/or terms of delivery for the basic lens product / range / combinations are defined here.

#### 8.3.1 Elliptic:

If a lens with the same range is available as both spherical and elliptic then the range must be defined twice.

#### 8.3.2 Overlapping of ranges:

Ranges can overlap. If the range from 2 entries overlap then the entry (with its definitions such as delivery time) which takes priority is the one which has a price defined in "Manf. code coating 1-5" and/or a "Range index" > 000..

#### 8.3.3 Principle meridian

See also 17.2.

#### 8.3.4 Range index – lens:

This field is used to determine the price of a product which deviates from the normal lens price because of an unusual power range or lens/coating combination. The LensPrice.Dat price is determined from a combination of the lens EDP code and "range index".

### **8.3.5 Coating range (“Manf. code coating 1-5”):**

The lens power range includes coatings given in “Manf. code coating 1-6”. Wild cards are permitted/required. Spaces will be interpreted as “no coating”.

In the field “Price for manf. code coating 1-5 included in lens price” indicates whether the coating in “Manf. code coating 1-5” is included in the lens price. This only applies to directly defined coatings. Coatings with wild cards are not included in the price.

#### **Example:**

If a range is available with all coatings, the fields “Manf. code coating 1-5” will contain “\*\*\*\*\*”.

If a range has only one coating available, with no others being permitted, then “Manf. code coating 1” will contain the EDV code for that coating and the fields “Manf. code coating 2-5” will contain spaces.

If the range for a particular coating can be combined with all other coatings ( as far as this is permitted in the Combination.Dat file), the field “Manf. code coating 1” will have the EDV code for that coating and the fields “Manf. code coating 2-6” will contain “\*\*\*\*\*”..

### **8.4 Examples for the LensRange.Dat file**

#### **Question:**

Prices for price groups in some countries are differentiated by plus or minus. However, price groups in the LensPrice.Dat file can only be given without of plus or minus.

#### **Answer:**

Two ranges are given in the LensRange.Dat file, one as plus and one as minus. The price index = 0 is given for plus and price index = 1 for minus. In this way different prices for the same price group can be given in the LensPrice.Dat file.

## 9 The “LensGeo.Dat” file

### 9.1 Description

The LensGeo.Dat file contains basic geometrical data, reference points, centration lines and near zones for basic lenses.

### 9.2 Table structure

No.	Field name	Pos	Length	Format	Comments	
1*	Basic lens manf. code	1	6	T6		
2*	Diameter basic lens	7	4	9999	0000 = geometry applies to all diameters 9999 or 99 with 2 spaces	
3*	Elliptic	11	1	B		
4*	Highest principle meridian from	12	5	+9999	+99.99 dpt	blank = geometry applies to all available ranges
5*	Highest principle meridian to	17	5	+9999	+99.99 dpt	
6	Exact diameter in the first semi axis	22	4	9999	99,99mm for elliptic lenses	blank if field 2 “Diameter basic lens” = “0000”
7	Exact diameter for the second semi axis	26	4	9999	99,99mm for elliptic lenses	
8	Near zone type	30	1	9	0=C 1=S 2=panto 3=spherical 4=executive	
9	Distance reference point vertical measurement	31	5	+9999	+99.99mm: vertical measurement of distance reference point to geometric center point Superior positive	
10	Distance reference point horizontal measurement	36	5	+9999	+99.99mm: horizontal measurement of distance reference point to geometric center point Nasal positive	

<b>No.</b>	<b>Field name</b>	<b>Pos</b>	<b>Length</b>	<b>Format</b>	<b>Comments</b>
11	Near reference point vertical measurement or Near reference point maximum vertical measurement	41	5	+9999	+99.99mm: vertical measurement of near zone upper edge (bifocal) or near reference point (progressive) to distance reference point  Inferior positive  If the next field contains an entry then this field gives the maximum measurement
12	Near reference point minimum vertical measurement	46	5	+9999	+99.99mm: minimum vertical measurement of near zone upper edge (bifocal) or near reference point to distance reference point.  Inferior positive
13	Near reference point horizontal measurement	51	5	+9999	+99.99mm: Horizontal measurement of the near reference point to the distance reference point (multifocal).  Nasal positive
14	Near zone lower radius	56	4	9999	99.99mm for bifocal/trifocal
15	Near zone upper radius	60	4	9999	99.99mm for bifocal/trifocal
16	Near zone width	64	4	9999	99.99mm for bifocal/trifocal
17	Near zone height	68	4	9999	99.99mm for bifocal/trifocal
18	Intermediate zone height	72	4	9999	99.99mm for trifocal
19	Centration line vertical measurement	76	4	9999	99.99mm distance between centration line and geometric center point for progressive lens
20	Centration marking horizontal measurement	80	4	9999	99.99mm distance between centration marking for progressive lens
21	Centration cross vertical measurement	84	4	9999	99.99mm distance between centration cross and geometric center point for progressive lens

### 9.3 Notes

If “Diameter” (field 2) = “0000”, meaning that the geometry is valid for all diameters, then the value for exact diameters (fields 6/7) will be ignored or will also contain “0000”. „0000“.

# 10 The “LensPrice.Dat” file

## 10.1 Description

The LensPrice.Dat file contains the various prices for basic lenses.

## 10.2 Table structure

No.	Field name	Pos	Length	Format	Comments
1*	Basic lens manf. code	1	6	T6	
2*	Diameter	7	4	9999	7080 or 2-digit with 2 following spaces
3*	Sph group	11	2	99	
4*	Cyl group	13	2	99	Be aware of the entry in field “pricedefinition-cylinder” in the Head.Dat file. Before determining the price, convert according to entries in “Plus-cylinder” or “minus-cylinder”
5*	Range index	15	3	999	
6	Price 1	18	7	999999 9	For definition see Head.Dat
7	Price 2	25	7	999999 9	For definition see Head.Dat
8	Price 3	32	7	999999 9	For definition see Head.Dat
9	Price 4	39	7	999999 9	For definition see Head.Dat
10	Price 5	46	7	999999 9	For definition see Head.Dat

## 10.3 Notes

The “Range index” is defined in the LensRange.Dat file. It enables differential pricing for a product with various ranges and combinations of coatings. The “Range index” is part of the key. This means that for a product with one diameter for a given sph/cyl range, different prices can be given according to the “Range index”.

The field “Price for manf. code coating 1-5 included in price” in the LensRange.Dat file, indicates whether the coating (also defined in LensRange.Dat) is included in the lens price.

If only Price 1 and 2 (see Head.Dat) are defined then the fields Price 3, 4 and 5 may be omitted making the record shorter.

# 11 The “Options.Dat” file

## 11.1 Description

The Options.Dat file contains the descriptions and classification of optional processing and coatings.

## 11.2 Table structure

No.	Field name	Pos	Length	Format	Comments
1*	Manf. code coating	1	6	T6	
2	Name	7	40	T40	“Name” may only occur once within the file
3	Available from	47	8	D	Blank = only restricted by “Available to” field
4	Available until	55	8	D	Blank = no expiry
5	Standard/brand	63	1	9	0=standard 1=brand 2=eco
6	For silicate	64	1	B	
7	For plastic	65	1	B	
8	For polycarbonate	66	1	B	
9	For Trivex	67	1	B	
10	AR	68	1	9	0=none 2=single AR 5=multi AR 8=Super AR
11	Color	69	1	9	0=none 1=filter<15% absorption 2=color 4=single gradient 5=double gradient 6=triple gradient
12	Photochromic	70	1	B	
13	Hard coating	71	1	B	
14	Clean coating	72	1	B	
15	UV coating	73	1	B	
16	Mirrored	74	1	B	
17	Final edging	75	1	9	0=no 1=with traced shape 2=in given frame
18	Optional diameter	76	1	9	0=none 1=smaller 2=larger 3=optimized

<b>No.</b>	<b>Field name</b>	<b>Pos</b>	<b>Length</b>	<b>Format</b>	<b>Comments</b>
19	Optional thickness	77	1	9	0=none 1=optional thickness 2=thickness reduction system
20	Optional lens curvature	78	1	B	
21	Optional addition	79	1	B	
22	Optional shape	80	1	9	0=none 1=oval instead of round 2=round instead of oval 3=truncated
23	Power beyond available range	81	1	B	
24	Decentration	82	1	B	
25	Height compensating prism	83	1	B	
26	Opaque	84	1	B	
27	Coating removal	85	1	B	
28	Bifocal lenses	86	1	B	
29	Outer toric	87	1	B	
30	Bonus available	88	1	B	
31	Insurance	89	1	B	
32	Driving restrictions	90	1	9	See chapter 17.1
33	Filter category	91	1	9	0 to 4 according to DIN EN ISO 8930-3
34	UV cutoff	92	3	999	999nm
35	UV-A transmission	95	4	9999	99,99%
36	UV-B transmission	99	4	9999	99,99%
37	Basic lens – highest principle meridian from	103	5	+9999	-99,99 = standard value
38	Basic lens – highest principle meridian to	108	5	+9999	+99,99 = standard value
39	Diameter from	113	2	99	0 = standard value
40	Diameter to	115	2	99	99 = standard value

### 11.3 Notes

Fields 37 and 38 have been included to depict coatings which are only available in a particular power range. They are defined the same as fields 4 and 5 in the LensGeo.Dat file (power in highest principle meridian from/to).

**Field 11 Color:** If the value in field 11 is 2 or more, then at least one color has to be defined in the OptionsColor.Dat file.



## 12 The “OptionsColor.Dat” file

### 12.1 Description

The OptionsColor.Dat file contains the descriptions of individual colors within a color group and the assignment to a coating code.

### 12.2 Table structure

No.	Field name	Pos	length	Format	Comments	
1*	Manf. code color	1	3	T3		
2	Manf. code coating	4	6	T6		
3	Name	10	40	T40		
4	Absorption upper	50	2	99	99%	
5	Absorption lower	52	2	99	99%	
6	RGB value red, upper	54	3	999	upper: 0 - 255	
7	RGB value green, upper	57	3	999	middle / lower:	
8	RGB value blue, upper	60	3	999		
9	RGB value red, middle	63	3	999	0 – 255	
10	RGB value green, middle	66	3	999	Blank if single-colored. The “upper” RGB values then provide the color.	
11	RGB value blue, middle	69	3	999		
12	RGB value red, lower	72	3	999		
13	RGB value green, lower	75	3	999		
14	RGB value blue, lower	78	3	999		
15	Restrictions when driving	81	1	9	See chapter 17.1	blank = data to be used from Options.Dat file If data is present here, then it has priority over the data given in Options.Dat
16	Filter category	82	1	9	0 to 4 according to DIN EN ISO 8930-3	
17	UV cutoff	83	3	999	999nm	
18	UV-A transmission	86	4	9999	99,99%	
19	UV-B transmission	90	4	9999	99,99%	

### 12.3 Notes

The coating codes must be defined in Options.Dat.



## 13 The “OptionsPrice.Dat” file

### 13.1 Description

The OptionsPrice.Dat contains the various prices of the supplements defined in the Options.Dat file.

### 13.2 Table Structure

No.	Field name	Pos	Length	Format	Comments
1*	Manf. code coatings	1	6	T3	
2*	Basic lens manf. code	7	6	T6	Enter the lens EDP code if the coating price for a particular lens deviates from the standard price Otherwise blank
3*	Spherical / toric	13	1	9	0=any 1=spherical 2=toric
4*	Unifocal/ multifocal	14	1	9	0=any 1=unifocal basic lens 2=multifocal basic lens
5*	For mineral	15	1	B	
6*	For plastic	16	1	B	
7*	For polycarbonate	17	1	B	
8*	For Trivex	18	1	B	
9	Price 1	19	7	9999999	For definition see Head.Dat
10	Price 2	26	7	9999999	For definition see Head.Dat
11	Price 3	33	7	9999999	For definition see Head.Dat
12	Price 4	40	7	9999999	For definition see Head.Dat
13	Price 5	47	7	9999999	For definition see Head.Dat

### 13.3 Notes

The “Manf. code coatings” must either be defined in the Options.dat file or belong to one of the following predefined groups.

**a) Higher cylinder ranges**, supplement to Cyl. ZB (see notes to LensRange.Dat)  
to cylinder ZG1 Z1  
to cylinder ZG2 Z2  
above cylinder ZG2 Z3

**b) Prism ranges**  
to PG1 cm/m P1  
to PG2 cm/m P2  
to PG3 cm/m P3  
to PG4 cm/m P4  
to PG5 cm/m P5  
over PG5 cm/m P6

# 14 The “Combination.Dat” file

## 14.1 Description

The Combination.Dat file defines the availability of follow-up processing per basic lens and the extent of processing combinations.

## 14.2 Table structure

No.	Field name	Pos	Length	Format	Comment
1*	Basic lens manf. code	1	6	T6	
2*	Availability	7	1	9	0=not available 1 = available (but no compulsory coating) 2=only available (compulsory coating, see also )
3*	Manf. code coating 1	8	6	T6	
4*	Manf. code coating 2	14	6	T6	
5*	Manf. code coating 3	20	6	T6	

## 14.3 Rules for the Combination.Dat file

### 14.3.1 All coatings available

Generally, the same coatings are available for each lens of the same material. No entries are required in the Combinations.Dat file.

Exception: see “. “

### 14.3.2 Combinations which are not available must be given

If a coating is not available for a basic lens then the combination concerned must be entered in the Combinations.Dat file.

Example:

```
123456789012345678901234567890  
gggggg0aaaaa*****
```

(Note: the underlined numbers above are just to make the example easier to read and do not appear as such in the file.)

In this example, lens “ggggg” is not available with the coating “aaaaa”. Fields “Manf. code coating 2” and “Manf. code coating 3” contain wild cards and mean for “all coatings”.

### 14.3.3 Use of wild cards “\*”

To define several exceptions with just one entry in the Combination.Dat file, wild cards can be used.

Six spaces means “no coating” or “no lens”.

**Important: 6 wild cards “\*” stand for every lens or every available (not excluded) coating. In other words, all coatings can be excluded using wild cards. Excluded coatings can not be marked again as available using wild cards.**

Example:

```
123456789012345678901234567890  
*****0bbbbbb*****  
*****0ccccc  
gggggg0*****
```

(Note: the underlined numbers above are just to make the example easier to read and do not appear as such in the file.)

In this example, no coatings are available for lens “gggggg”.

The coating “bbbbbb” is not available for any Lens (see next section for exceptions).

The coating “ccccc” is not available without a second coating. (Note that spaces in fields “Manf. code coating 2 and 3” mean “no coating”).

#### 14.3.4 Significance of the “Availability” field

If, as in the above example, all coatings for a lens are excluded, single coatings can still be permitted. The values in the “Availability” field are hierarchical. The value 1 (available) has priority over the value 0 (not available).

Example:

```
123456789012345678901234567890  
gggggg0*****  
gggggg1aaaaa  
gggggg1bbbbbb*****  
gggggg1ccccc*****
```

(Note: the underlined numbers above are just to make the example easier to read and do not appear as such in the file.)

In this example, no coatings are available for lens “gggggg”, but an exception is made for coating “aaaaa”. Furthermore, a lens with only this coating (i.e. without any further coatings) is available. Coating “bbbbbb” is available for this lens along with any other (available) coating. This also applies to coating “ccccc”.

Example:

```
123456789012345678901234567890  
*****0bbbbbb*****  
gggggg1bbbbbb*****
```

(Note: the underlined numbers above are just to make the example easier to read and do not appear as such in the file.)

In this example, coating “bbbbbb” is not available for any lens. The exception is lens “gggggg”. Coating “bbbbbb” is available for this lens, also in combination with other coatings. If the asterisks were absent in the second record, then only the coating “bbbbbb” would be available for this lens.

Example:

```

123456789012345678901234567890
gggggg0*****
gggggg1MDM *****
gggggg2ET *****
gggggg2MET *****
gggggg2SET *****
gggggg2Hard *****

```

(Note: the underlined numbers above are just to make the example easier to read and do not appear as such in the file.)

No coating is available for lens “gggggg”. The exceptions ET, MET, SET or Hard are given as compulsory coatings. MDM is given as a non-compulsory coating.

**14.3.5 Note on compulsory coatings**

To simplify the processing of the Combination.Dat file, the following rule applies to compulsory coatings: if the conditions for compulsory coatings are fulfilled for an entry, then subsequent entries for compulsory coatings can be ignored - in principle an “or” connector. This means, in the above example, “ET”, “MET”, “SET” OR “Hard” must be selected. If an AR coating with only “Hard” is available, this has to be given as a separate record.

Example:

```

123456789012345678901234567890
gggggg0*****
gggggg1MDM *****
gggggg2ET Hard *****
gggggg2MET Hard *****
gggggg2SET Hard *****

```

(Note: the underlined numbers above are just to make the example easier to read and do not appear as such in the file.)

In this case, the lens is only available with an AR “and” Hard coating.

**14.3.6 Excluding coatings irrespective of lens**

To exclude coatings irrespective of lens, then wild cards “\*” are entered in “Basic lens manf. code”. This exception applies to all lenses and need not be entered for each lens.

Example:

```

123456789012345678901234567890

```

\*\*\*\*\*0aaaaaabbbbb\*\*\*\*\*

(Note: the underlined numbers above are just to make the example easier to read and do not appear as such in the file.)

In this example, the coating “aaaaaa” with the coating “bbbbbb” is not available for any lens.

### 14.3.7 Implied exceptions

Excluding coatings for material A for lenses of material B must not be given as such exceptions are already implied.

Coatings of the same type (AR: single AR and super AR) can not be combined. The following exclusions must therefore not be given as they are already implied:

- AR coatings with other AR or mirror coatings
- Hard coatings with other hard coatings
- Clean coatings with other clean coating
- UV coatings with other UV coatings
- Insurance supplements with other insurance supplements

In other words, a lens can not be supplied with 2 coatings of the same type.

Note: two color coatings are possible.

Furthermore, coatings are not available which are defined as coating for the lens in the file LensType.Dat. (For example, if “ET incl.” is given in the LensType.Dat file, then all ETS in the Options.Dat file are not available).

### 14.3.8 Combinations and coating range (“Manf. code coating 1-5”) in the LensRange.Dat file

If coatings (“Manf. code coating 1-5”) are given in the LensRange.Dat file which are excluded in the Combination.Dat file, then the coatings are available but only for the range given in LensRange.Dat. The coatings remain unavailable for all other ranges.

Example:

Lens xxx is available from -10.00 dpt to +10.00 dpt with diameters of 60,65,70. The option “SET” is not available for this lens except for the diameter 60 and range from -2.00dpt to +2.00dpt.

In this case the option “SET” would be completely excluded in the Combination.Dat file.

```
Basic lens manf. code:      xxx
Availability:              Not available
Manf. code coating 1: SET
Manf. code coating 2: *****
Manf. code coating 3: *****
```

A new range would also be included in the LensRange.Dat file in which the option “SET” would be given under “Manf. code coating 1”.

```
...
Basic lens manf. code:    xxx
```

```

...
Highest principle meridian from:          -2.00
Highest principle meridian to:          +2.00
...
Manf. code coating 1:  SET
...

```

### 14.3.9 Further examples concerning Combination.Dat

From the forum:

There are coatings from Rupp + Hubrach which can only be combined with other coatings – otherwise they can not be selected. For example, the hydrophobe coating “PL” can only be combined with a dual sided AR coating. The type of AR coating is chosen by the customer. The same applies to the back surface anti-reflective multicoating. This must be combined with a color.

Solution:

```

123456789012345678901234567890
*****0PL      *****
*****1PL      ET      *****
*****1PL      MET      *****

```

(Note: the underlined numbers above are just to make the example easier to read and do not appear as such in the file.)

Explanation:

In the first line PL is excluded for lenses, irrespective of whether or not other coatings exist. The second and third lines indicate that PL with ET or MET are available for all lenses.

From the forum

Myoplast from Rupp + Hubrach. The lens is available without a hard coating. However, if an AR coating is selected, then only in combination with a hard coating.

Solution:

```

123456789012345678901234567890
MYOPLA0Hard    *****
MYOPLA0ET      *****
MYOPLA0MET     *****
MYOPLA1Hard    ET      *****
MYOPLA1Hard    MET     *****

```

(Note: the underlined numbers above are just to make the example easier to read and do not appear as such in the file.)

Explanation:

The first 3 lines exclude Hard, ET and MET for the lens MYOPLA. Lines 4 and 5 then indicate that MYOPLA is available with MET and Hard.

From the forum



There are coatings (supplementary) that are only available for a lens when another coating for the lens is selected..

Example: Essilor: XPress (is given as a coating), is only available for a "Varilux Comfort Min 1.6" in combination with "Super-Diafal". No further supplements, e.g. color, are allowed. "XPress" is not available for this lens without "Super-Diafal".

Solution:

123456789012345678901234567890

\*\*\*\*\*0Xpress\*\*\*\*\*

4801001XpressSupDia

(Note: the underlined numbers above are just to make the example easier to read and do not appear as such in the file.)

Explanation:

The first line excludes Xpress for all lenses, irrespective of whether or not further coatings exist. The second line indicates that Xpress is available with SuperDiafal but no other coatings (because of the spaces in "Manf. code coating 3" and not wild cards).

Comments on Combination.Dat

## 15 The “Information.Dat” file

### 15.1 Description

The Information.Dat file contains optional text and illustrations which can also be found in the printed price lists.

### 15.2 Table structure

No.	Field name	Pos	Length	Format	Comments
1*	Product type	1	1	9	0=basic lens 1=coating
2*	Manf. code lens / coating	2	6	T6	
3*	Information type	8	2	99	02=technical product specification 03=marketing specification 04=notes on driving restrictions 05=ordering information 06=notes on delivery 07=product range supplements 09=MPG notes  30=image file  40=URL for image file 42=URL for technical specification 43=URL for marketing information 44=URL for notes on driving restrictions 45=URL for ordering information 46=URL for delivery information 47=URL for product range supplements 49=URL for MPG notes  61=list of fields which <b>must</b> be supplied when ordering 62=List of fields which <b>can</b> be supplied when ordering
4*	Line number	10	3	999	from 001 onwards
5	Information lines	13	250	T250	Text, file name or URL

#### 15.2.1 Information.Dat “Information type” 61and 62

Field number according to DIN EN ISO 13666	Field description
5.27	HSA

Field number according to DIN EN ISO 13666	Field description
5.29	PD
5.18	pantoscopic angle
	boxed lens angle
	vertical compensation / slab off
	prism tuning, vertical
	inset

A “field number according to ISO/DIN” is given for each record.

## 16 The “OeCodes.Dat” file

### 16.1 Description

The OeCodes.Dat file contains OPC or ERFA codes for lens and coatings.

### 16.2 Table structure

<b>No.</b>	<b>Field name</b>	<b>Pos</b>	<b>Length</b>	<b>Format</b>	<b>Comments</b>
1*	Product type	1	1	9	0=basic lens 1=coating
2*	Manf. code lens / coating	2	6	T6	
3*	Type	8	1	9	0=OPC 1=ERFA
4*	Code	9	20	T20	ERFA or OPC-Code

# 17 Definitions

## 17.1 Driving restrictions

Definition of values:

0=no information

1=no restrictions

2=not for road use

3=not for night driving

4=not for driving

5=dependent on centre thickness and finishing

### **Not suitable for road use**

In glasses for near and intermediate vision, the optician must inform the customer that they are "not for road use". In lenses which come under this category, the manufacturer must provide the optician with information (grade 1 or 2) concerning restrictions on use.

### **Not for driving**

In glasses where signal light recognition can not be guaranteed, the optician must inform the customer that they are "not for driving". In lenses whose tinting cannot guarantee signal light recognition according to DIN EN ISO 14889, the manufacturer must provide the optician with information (grade 1 or 2) concerning restrictions on use.

### **Not permitted for night driving.**

In glasses which have lenses with a 25% light reduction, the optician must inform the customer that they "are not permitted for night driving". In lenses with a 25% light reduction (according to DIN EN ISO 14889), the manufacturer must provide the optician with information (grade 1 or 2) concerning restrictions on use.

## 17.2 Cylinder power

The cylinder power fields are defined in the LensRange.Dat file. These define the cylinder's effect on/of the basic lens's availability. The appendix contains 5 illustrations as examples (page ).

All 5 examples have the following range:

Sph	-1.00 to +2.00
Cyl	0.00 to 2.00

Although the range is the same for all illustrations, the actual ranges differ in the detail (the black squares in the range grids indicate what sph/cyl are actually available). All 5 examples do occur in practice!

A simple way to portray this is to use a percentage factor with which the cylinder influences the highest principle meridian. The percentage factor is given each time for the lowest ("cylinder power from " to "highest principle meridian from") and highest ("cylinder power to " to "highest principle meridian to") principle meridian. Determining the lowest number applies here: -9.00 is lower than -2.00, +2.00 is lower than +5.00)

The formula for the resulting principle meridian is: principle meridian=sph\*cyl\*power%

**Example 1:** (cylinder power to "highest principle meridian from"=0% cyl power to "highest principle meridian to"=100%). In illustration 1 the cylinder is taken into account in the upper part and not in the lower part. This gives a typical staircase pattern in the upper part (plus part) and in the lower part (minus part).

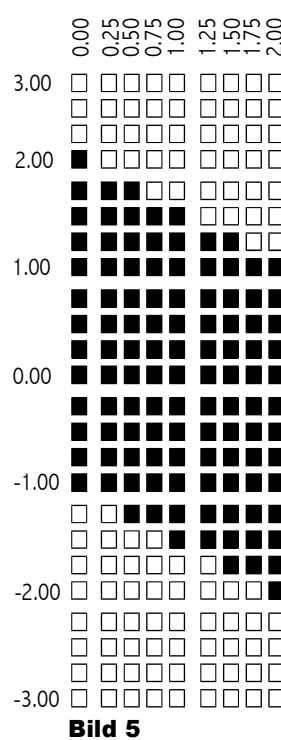
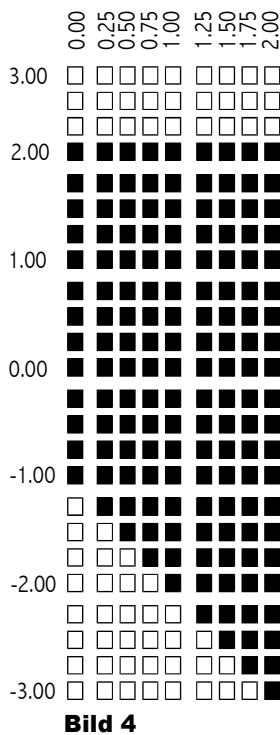
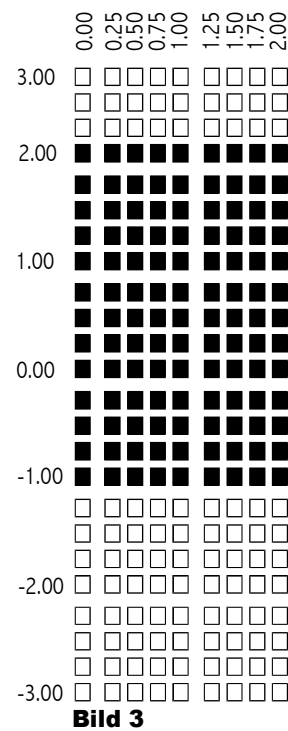
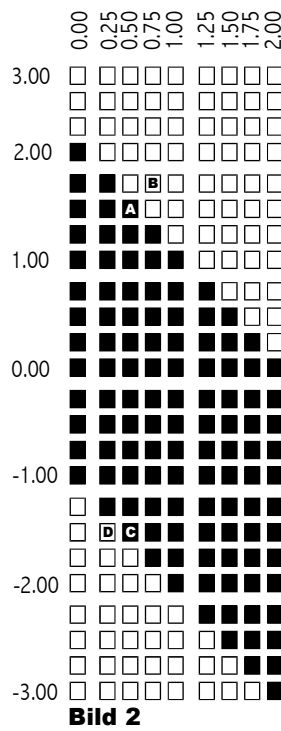
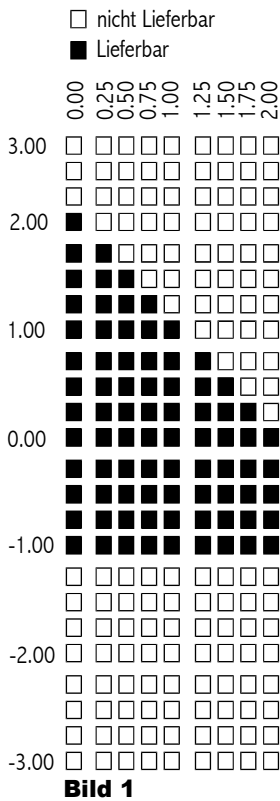
**Example 2:** (cylinder power to "highest principle meridian from"=100% cyl power to "highest principle meridian to"=100%). In both cases the cylinder is effective to 100%. The value "sph+1,50/cyl0.50" (marked A) is available, because the resulting highest principle meridian of +2.00 (+1,50+0,50) is in the given range. The value "sph+1,75/cyl0.75" (marked B) is not available. The resulting highest principle meridian of +2,50 (+1,75+0,75) is located higher than the maximum value of the given sph (+2.00). The value "sph-1,50/cyl0.50" (marked C) is available because the resulting highest principle meridian -1.00 (-1,50+0,50) is located within the range. The value "sph-1,50/cyl0.25" (marked D) is not available. The resulting highest principle meridian -1,25 (-1,50+0,25) is located lower than then minimum value of sph (-1.00).

**Example 3:** (cylinder power to "highest principle meridian from"=0% cyl power to "highest principle meridian to"=0%). In illustration 3 the cylinders are not taken into account in both upper and lower parts.

**Example 4:** (cylinder power to "highest principle meridian from"=100% cyl power to "highest principle meridian to"=0%). In illustration 4 the cylinders are not taken into account in the upper part but are in the lower part.

**Example 5:** (cylinder power to "highest principle meridian from"=50% cyl power to "highest principle meridian to"=50%). In illustration 5, cylinders are taken into account by 50% in both upper and lower parts. The value "sph+1,75/cyl0.50" is available because the resulting highest principle meridian of +2.00 (+1,75+(0,50\*50%)) is located in the range. The value "sph+1,75/cyl0.75" is not available. The resulting highest principle meridian of +2,125 (+1,75+(0,75\*50%)) is located higher than the maximum of sph (+2.00).

## 17.3 Appendix 1 – illustrations for cylinder power



Für alle Beispiele gilt:  
Sph von -1.00 bis +2.00  
Zyl von 0.00 bis 2.00

**Bild 1:**  
Zyl-Wirkung (von Sph) = 0%  
Zyl-Wirkung (bis Sph) = 100%

**Bild 2:**  
Zyl-Wirkung (von Sph) = 100%  
Zyl-Wirkung (bis Sph) = 100%

**Bild 3:**  
Zyl-Wirkung (von Sph) = 0%  
Zyl-Wirkung (bis Sph) = 0%

**Bild 4:**  
Zyl-Wirkung (von Sph) = 100%  
Zyl-Wirkung (bis Sph) = 0%

**Bild 5:**  
Zyl-Wirkung (von Sph) = 50%  
Zyl-Wirkung (bis Sph) = 50%

Hinweis:

Zyl-Wirkung (von Sph) bezieht sich auf den kleineren Wertebereich der Sphäre (hier -1.00).  
Zyl-Wirkung (bis Sph) bezieht sich auf den grösseren Wertebereich der Sphäre (hier +2.00).