



See page 13 for material specification and geometric tolerance

**KE190 - Biconvex Lenses Ø 19,00 mm.**

Code	Material	D (mm)	d (mm)	S (mm)	t (mm)	h (mm)	Lambda (nm)	EFFL (mm)	BFL (mm)
<b>KE19001B</b>	PC	19,00	18,00	0,50	7,00	4,90	587	38,0	33,1
<b>KE19002B</b>	SAN	19,00	18,00	0,50	7,00	4,90	587	38,0	33,1
<b>KE19003B</b>	PC-IR	19,00	18,00	0,50	7,00	4,90	850	39,0	34,0
<b>KE19004B</b>	PMMA	19,00	18,00	0,50	7,00	4,90	587	45,2	39,9
<b>KE19005B</b>	PMMA-IR	19,00	18,00	0,50	7,00	4,90	850	45,8	40,5

**KE195 - Biconvex Lenses Ø 19,50 mm.**

Code	Material	D (mm)	d (mm)	S (mm)	t (mm)	h (mm)	Lambda (nm)	EFFL (mm)	BFL (mm)
<b>KE19501B</b>	PC	19,50	18,50	0,50	7,00	4,80	587	39,0	34,0
<b>KE19502B</b>	SAN	19,50	18,50	0,50	7,00	4,80	587	39,0	34,0
<b>KE19503B</b>	PC-IR	19,50	18,50	0,50	7,00	4,80	850	40,0	35,0
<b>KE19504B</b>	PMMA	19,50	18,50	0,50	7,00	4,80	587	46,4	41,1
<b>KE19505B</b>	PMMA-IR	19,50	18,50	0,50	7,00	4,80	850	47,0	41,7

**KE200 - Biconvex Lenses Ø 20,00 mm.**

Code	Material	D (mm)	d (mm)	S (mm)	t (mm)	h (mm)	Lambda (nm)	EFFL (mm)	BFL (mm)
<b>KE20001B</b>	PC	20,00	19,00	0,50	7,00	4,78	587	40,0	33,8
<b>KE20002B</b>	SAN	20,00	19,00	0,50	7,00	4,78	587	40,0	33,8
<b>KE20003B</b>	PC-IR	20,00	19,00	0,50	7,00	4,78	850	41,0	34,8
<b>KE20004B</b>	PMMA	20,00	19,00	0,50	7,00	4,78	587	47,6	41,0
<b>KE20005B</b>	PMMA-IR	20,00	19,00	0,50	7,00	4,78	850	48,2	41,6

**KIT SAMPLES - Biconvex Lenses Kit (Choose five type of lenses)**

Code

Code

Code

Code

Code

Fill the box and fax this page to +39 02 66013500.  
For any other information please visit our web site

		PC	SAN	PC-IR	PMMA	PMMA-IR
Transmission Factor for transparent material	%	89	89	-	92	-
Refractive index		1.586	1.565	1.586	1.49	1.49
Haze for transparent material	%	< 0.8	< 0.8	-	< 0.5	-
Tensile modulus	MPa	2400	3700	2400	3300	3300
Yeld stress	MPa	65*	70*	65*	77**	77**
Yeld strain	MPa	6.0*	> 2.0*	6.0*	5.5**	5.5**
Glass transition temperature	°C	145	108	148	117	117
Temperature of deflection under load (1.8 Mpa)	°C	124	101	125	98	98
Temperature of deflection under load (0.45 Mpa)	°C	137	103	137	103	
Density	Kg/m3	1200	1070	1200	1190	1190

\* 50 mm/min

\*\* 5 mm/min

### Geometric Tolerance

**t**       $t \pm 0,05\%$

**R**       $R \pm 3\%$

**D**       $D \begin{matrix} +0,00 \\ -0,1 \end{matrix}$

**EFFL**       $EFFL \pm 5\%$

**BFL**       $BFL \pm 5\%$