

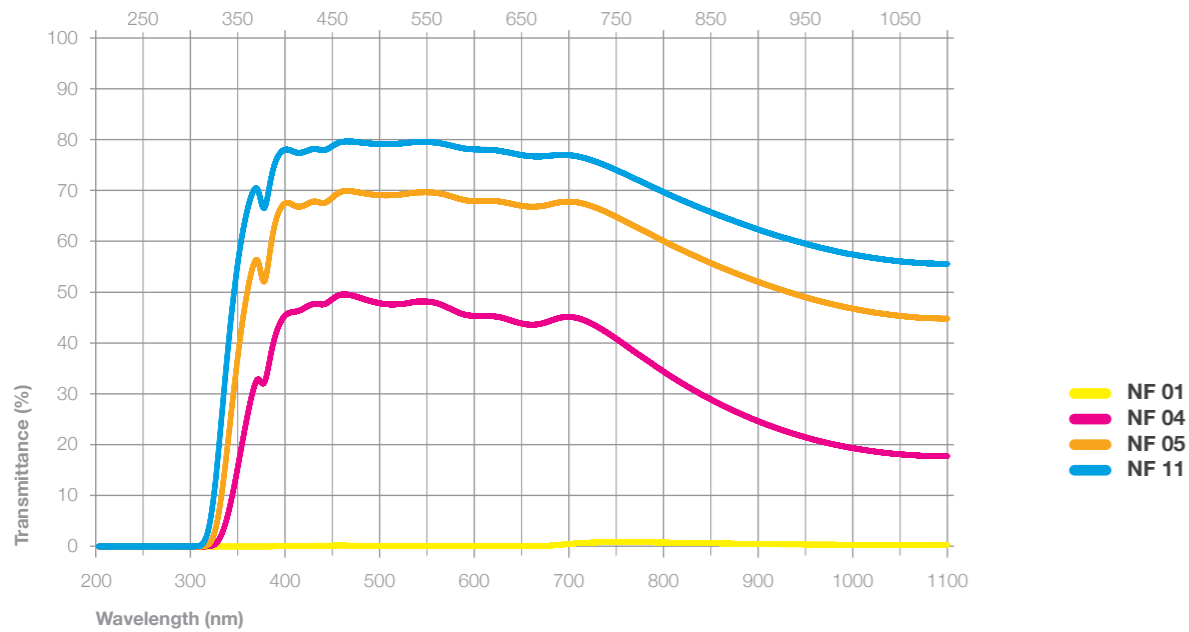
# Glass Types

<b>NEUTRAL DENSITY</b>	<b>HEBO</b>	Schott
	<b>NF 01</b>	≈ NG 1
	<b>NF 04</b>	≈ NG 4
	<b>NF 05</b>	≈ NG 5
	<b>NF 11</b>	≈ NG 11

## Neutral Density Glass Characteristics

Type	Thickness	n (587,6 nm)	ρ (g/cm³)	T <sub>g</sub> (°C)	T <sub>s</sub> (°C)	α × 10 <sup>-7</sup> (°C)	D <sub>A</sub>	D <sub>W</sub>	Bubbles	Homogeneity	Striae
<b>NF 01</b>	1 mm	1,53	2,46	469	582	65	5	3	3	0	1
<b>NF 04</b>	1 mm	1,502	2,41	469	582	65	5	3	3	0	1
<b>NF 05</b>	1 mm	1,502	2,41	469	582	65	5	3	3	0	1
<b>NF 11</b>	1 mm	1,502	2,41	469	582	65	5	3	3	0	1

Type	Thickness	v (mired)	
		Standard	Range
<b>NF 01</b>	1 mm	1,0	0 - 4
<b>NF 04</b>	1 mm	50,0	43 - 57
<b>NF 05</b>	1 mm	68,0	61 - 75
<b>NF 11</b>	1 mm	81,0	74 - 88



	NF 01	NF 04	NF 05	NF 11
Thickness (mm)	1	1	1	1
Wavelength (nm)	%T	%T	%T	%T
190	0,004	0,003	0,003	0,010
200	0,001	0,002	0,003	0,004
210	0,001	0,004	0,002	0,005
220	0,001	0,002	0,002	0,003
230	0,000	0,002	0,001	0,003
240	0,000	0,001	0,002	0,003
250	0,001	0,004	0,005	0,007
260	0,001	0,001	0,002	0,006
270	-0,001	0,002	0,002	0,008
280	0,001	0,003	0,004	0,008
290	0,005	0,003	0,006	0,015
300	0,000	0,005	0,009	0,013
310	0,002	0,006	0,013	0,174
320	0,000	0,063	0,578	4,184
330	0,004	1,335	6,636	19,454
340	0,009	6,568	21,104	39,572
350	0,002	15,574	37,303	55,728
360	0,003	25,491	50,040	66,137
370	-0,001	32,629	56,415	70,482
380	0,011	33,269	53,182	67,520
390	0,028	41,629	63,953	75,774
400	0,065	45,444	67,531	78,135
410	0,102	46,188	67,112	77,653
420	0,136	46,867	67,136	77,664
430	0,170	47,699	67,900	78,244
440	0,177	47,643	67,635	78,011
450	0,196	48,683	68,705	78,823
460	0,208	49,588	69,881	79,648
470	0,189	49,429	69,964	79,746
480	0,156	48,881	69,641	79,529
490	0,126	48,294	69,341	79,324
500	0,107	47,866	69,171	79,236
510	0,093	47,642	69,156	79,229
520	0,091	47,661	69,271	79,316
530	0,098	47,897	69,479	79,482
540	0,112	48,193	69,699	79,621
550	0,116	48,189	69,732	79,612
560	0,104	47,894	69,602	79,499
570	0,081	47,195	69,250	79,167
580	0,062	46,300	68,683	78,720
590	0,052	45,615	68,188	78,336
600	0,054	45,392	68,033	78,174
610	0,060	45,395	68,045	78,120
620	0,067	45,313	68,041	78,046
630	0,072	44,974	67,821	77,785
640	0,071	44,404	67,452	77,418
650	0,076	43,882	67,080	77,061
660	0,089	43,650	66,897	76,819
670	0,124	43,823	66,984	76,797
680	0,204	44,385	67,346	76,949

	NF 01	NF 04	NF 05	NF 11
Thickness (mm)	1	1	1	1
Wavelength (nm)	%T	%T	%T	%T
690	0,348	44,971	67,756	77,083
700	0,526	45,168	67,890	77,033
710	0,688	44,898	67,720	76,760
720	0,802	44,217	67,261	76,281
730	0,874	43,251	66,605	75,654
740	0,911	42,127	65,819	74,929
750	0,926	40,879	64,929	74,126
760	0,927	39,581	63,978	73,264
770	0,917	38,237	63,001	72,390
780	0,899	36,964	62,068	71,508
790	0,875	35,689	61,101	70,651
800	0,849	34,435	60,159	69,810
810	0,819	33,227	59,225	68,951
820	0,783	32,076	58,319	68,128
830	0,749	30,985	57,480	67,346
840	0,715	29,933	56,624	66,577
850	0,681	28,938	55,804	65,825
860	0,647	27,984	55,011	65,097
870	0,616	27,079	54,256	64,401
880	0,585	26,233	53,515	63,722
890	0,558	25,425	52,810	63,073
900	0,529	24,657	52,131	62,425
910	0,502	23,932	51,457	61,781
920	0,479	23,263	50,828	61,193
930	0,459	22,635	50,224	60,660
940	0,442	22,042	49,631	60,110
950	0,424	21,493	49,091	59,612
960	0,410	20,977	48,557	59,111
970	0,402	20,522	48,089	58,656
980	0,389	20,086	47,636	58,225
990	0,375	19,705	47,214	57,821
1000	0,367	19,365	46,832	57,478
1010	0,360	19,057	46,490	57,167
1020	0,354	18,768	46,163	56,855
1030	0,351	18,521	45,877	56,587
1040	0,346	18,316	45,631	56,344
1050	0,352	18,137	45,419	56,131
1060	0,354	17,999	45,227	55,960
1070	0,357	17,893	45,057	55,802
1080	0,357	17,818	44,949	55,693
1090	0,364	17,785	44,907	55,662
1100	0,372	17,792	44,839	55,620