

Neutral Density Filter

ND-03

Catalog Thickness t = 1.0 mm

Reflection Factor P_r = 0.920

Diagram-6

Transmittance (T) & Internal Transmittance (τ) units: (%)

λ _{nm}	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390	400	410	420	430	440
T																	8·10 ⁻³	.13	.68	3.6	5.9	6.7	7.3	8.1	8.2
τ																	9·10 ⁻³	.14	.74	3.9	6.4	7.3	7.9	8.8	8.9
λ _{nm}	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600	610	620	630	640	650	660	670	680	690
T	8.8	9.6	10.1	9.9	9.7	9.5	9.4	9.4	9.4	9.5	9.6	9.6	9.5	9.3	9.2	9.2	9.3	9.6	10.1	10.3	10.5	11.2	12.1	13.8	15.9
τ	9.6	10.4	11.0	10.8	10.5	10.3	10.2	10.2	10.2	10.3	10.4	10.4	10.3	10.1	10.0	10.0	10.1	10.4	11.0	11.2	11.4	12.2	13.2	15.0	17.3
λ _{nm}	700	710	720	730	740	750	800	850	900	950	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400
T	17.9	22.6	23.9	25.1	26.0	26.7	28.3	28.5	27.9	27.0	26.3	26.1	28.0	32.7	38.1	43.3	45.9	46.9	46.9	49.2	50.7	53.9	56.0	58.4	59.7
τ	19.5	24.6	26.0	27.3	28.3	29.0	30.8	31.0	30.3	29.3	28.6	28.4	30.4	35.5	41.4	47.1	49.9	51.0	51.0	53.5	55.1	58.6	60.9	63.5	64.9

Refractive Indices

Symbol	i	h	g	F'	F	e	d	D	C'	C	r	A'	t
λ _{nm}	365.0	404.7	435.8	480.0	486.1	546.1	587.6	589.3	643.8	656.3	706.5	768.2	1,014.0
n							(1.514)						

Abbe-Number

$$\nu_d = \frac{n_d - 1}{n_F - n_C} =$$

Color Specifications

	x	y	Y	λ _d	P _e
A	.453	.408	9.6	590	4
C	.316	.324	9.5	574	4
D ₆₅	.318	.337	9.5	572	4

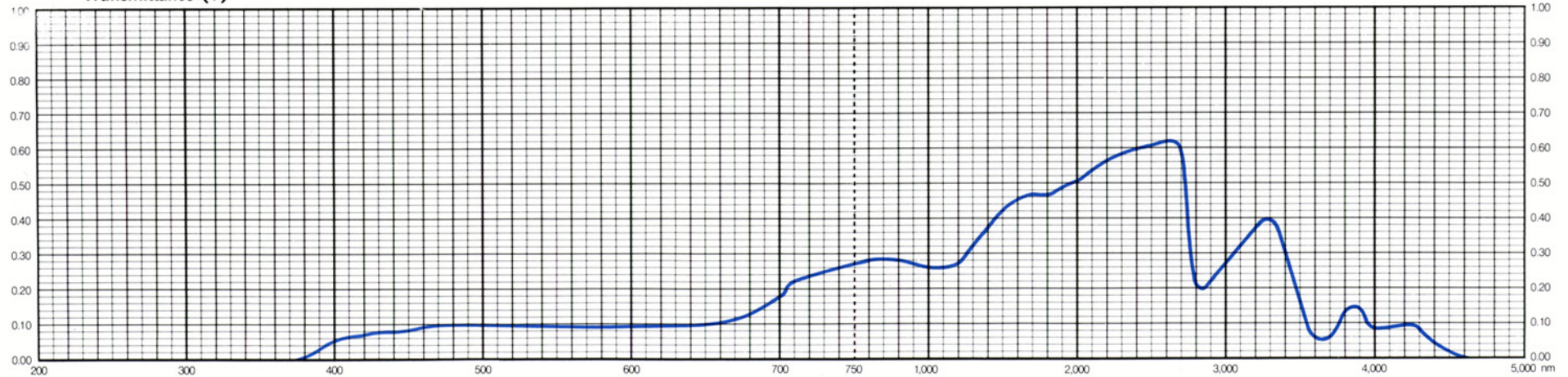
Properties

Chemical		Thermal				Mechanical		Other
D _w	D _A	T _a	T _s	α _{-30/70}	α _{100/300}	H _K	F _A	S
1	3	490	565	60	65	530	100	2.41

Tolerances of Transmittance (T)

Average Transmittance at 400 nm-700 nm	Average Optical Density
T _{av} (%)	D _{av}
10 ± 2	1.00

Transmittance (T)



All data are mean values of various melts.

HOYA 8304E