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|--------------------------|--|-------------------------------|--|------------|--|-------------------------|--|---------------|--|
| OPTICAL GLASS LENS | | Standard glass lenses | | 174 | | CUSTOMER | | BARBERINI SPA | |
| Sonbraun B/UV - AR 99 cc | | | | | | TECHNICAL DATA SHEET N. | | NO3042 | |
| | | | | | | GLASS CODE: | | 42010600 | |
| Base: 6 | | Coating: AR 99 cc | | | | DATE: | | 30/09/2015 | |
| Thickness: 1.9 mm | | Polarization Ratio: 0,00% | | (min 8:1) | | Photochromic Ratio: | | 0,00% | |
| Hardening: Chemically | | Degree of Polarization: 0,0 | | | | Photochromic Interval: | | 0,00 | |
| Optical Centre: Centre | | Reflection factor: PASS 1,47% | | (max 2.5%) | | | | | |

This sunglare filter is conform to the following International Norm:

European Norm: ISO 12312-1 2013

| | | | | | | | | | |
|-------|-------------------------|---|---------------|-------------|---------------|--|--|--|--|
| | | Filter Category: 2 | | Medium tint | | | | | |
| | |  | | | | | | | |
| TV | (mean 380 ÷ 780 nm) | 34,46% | | | | | | | |
| TSB | (mean 380 ÷ 500 nm) | 17,50% | | | | | | | |
| TSIR | (mean 780 ÷ 2000 nm) | 25,32% | (max TV) | | IR PROTECTION | | | | |
| TSUV | (mean 280 ÷ 380 nm) | 0,35% | | | | | | | |
| TSUVA | (mean 315 ÷ 380 nm) | 0,55% | (max 0,5 TV) | 17,23% | PASS | | | | |
| TSUVB | (mean 280 ÷ 315 nm) | 0,01% | (max 0,05 TV) | 1,72% | PASS | | | | |
| TVIS | (peak min 475 ÷ 650 nm) | 21,55% | (min 0,2 Tv) | 6,89% | PASS | | | | |
| | Qgreen | 0,95 | (min. = 0,60) | | PASS | | | | |
| | Qyellow | 1,10 | (min. = 0,60) | | PASS | | | | |
| | Qred | 1,18 | (min. = 0,80) | | PASS | | | | |
| | Qblue | 0,77 | (min. = 0,60) | | PASS | | | | |

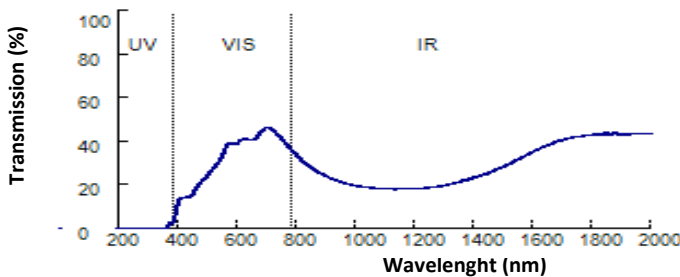
Suitable for driving and road use - Not suitable for driving at night or under condition of dull light

American Norm: ANSI Z80.3-2010

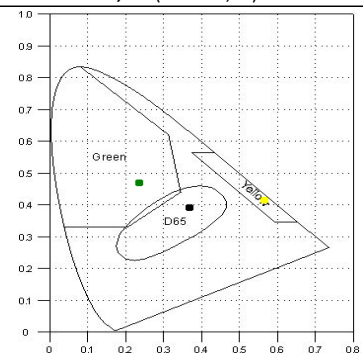
| | | | | | | | | | |
|-------|-----------------------------|--------|----------------|--------|------|--|-------------------|------|--|
| | | | | | | Primary function and shade general purpose | | | |
| TV | (mean 380 ÷ 780 nm) | 34,56% | (8<=Tv<40) | PASS | | | Medium to dark | | |
| TSB | (mean 380 ÷ 500 nm) | 17,50% | | | | | | | |
| TSUVB | (mean 280 ÷ 315 nm) | | | | | | Color limits: | | |
| | normal use | 0,00% | (<=1/8Tv) | 4,32% | PASS | Chromaticity (D65) | | PASS | |
| | high and prolonged exposure | 0,00% | (max 1%) | 0,34% | PASS | Yellow traffic signals | x=0,5821 y=0,4166 | PASS | |
| TSUVA | (mean 315 ÷ 380 nm) | | | | | Green traffic signals | x=0,2432 y=0,4718 | PASS | |
| | normal use | 0,82% | (max Tv) | 34,56% | PASS | Traffic signal transmittance: | | | |
| | high and prolonged exposure | 0,82% | (max 0.5 TV) | 17,28% | PASS | Red signal | 41,33% (>= 8%) | PASS | |
| TSIR | (mean 780 ÷ 1400 nm) | 23,39% | No requirement | | | Yellow signal | 39,01% (>= 6%) | PASS | |
| TVIS | (peak min 475 ÷ 650 nm) | 21,56% | (min 0,2 TV) | 6,89% | PASS | Green signal | 31,76% (>= 6%) | PASS | |

Australian Norm: AS/NZS 1067:2009

| | | | | | | | | | |
|--------|-------------------------|--------|--------------|--------|---------------------------|---------|--------------------|------|--|
| TV | (mean 380 ÷ 780 nm) | 34,46% | | | | | | | |
| TSB | (mean 380 ÷ 500 nm) | 17,50% | | | | | | | |
| TSIR | (mean 780 ÷ 2000 nm) | 25,32% | | | Filter Category: 2 | | | | |
| TSUV | (mean 280 ÷ 400 nm) | 1,00% | | | Medium sunglare reduction | | | | |
| TSUVA | (mean 315 ÷ 400 nm) | 1,48% | (max Tv) | 34,46% | PASS | Qgreen | 0,92 (min. = 0,60) | PASS | |
| TSUVB | (mean 280 ÷ 315 nm) | 0,01% | (max Tv) | 1,72% | PASS | Qyellow | 1,13 (min. = 0,80) | PASS | |
| TSUVB1 | (peak max 315 ÷ 350 nm) | 0,07% | (max 0,5 Tv) | 17,23% | PASS | Qred | 1,18 (min. = 0,80) | PASS | |
| TVIS | (peak min 450 ÷ 650 nm) | 16,77% | (min 0,2 TV) | 6,89% | PASS | Qblue | 0,84 (min. = 0,70) | PASS | |



D65 : x=0,3789
y=0,3938
C : x=0,3778
y=0,3843



Spectral Data:

| UV | | | | VIS | | | | IR | | | | | |
|-----|------|-----|------|-----|-------|-----|-------|-----|-------|-----|-------|------|-------|
| nm | % | nm | % | nm | % | nm | % | nm | % | nm | % | nm | % |
| 200 | 0,01 | 300 | 0,01 | 390 | 8,61 | 490 | 23,47 | 590 | 38,60 | 690 | 46,16 | 800 | 33,62 |
| 210 | 0,00 | 310 | 0,01 | 400 | 13,40 | 500 | 25,18 | 600 | 39,60 | 700 | 46,44 | 850 | 27,69 |
| 220 | 0,00 | 320 | 0,00 | 410 | 14,04 | 510 | 26,90 | 610 | 40,70 | 710 | 46,04 | 900 | 23,91 |
| 230 | 0,01 | 330 | 0,00 | 420 | 14,13 | 520 | 28,55 | 620 | 41,19 | 720 | 45,06 | 950 | 21,39 |
| 240 | 0,01 | 340 | 0,00 | 430 | 14,62 | 530 | 29,96 | 630 | 41,08 | 730 | 43,83 | 1000 | 19,74 |
| 250 | 0,00 | 350 | 0,07 | 440 | 14,72 | 540 | 31,92 | 640 | 40,76 | 740 | 42,46 | 1050 | 18,84 |
| 260 | 0,01 | 360 | 0,93 | 450 | 16,77 | 550 | 34,83 | 650 | 40,75 | 750 | 40,89 | 1100 | 18,44 |
| 270 | 0,01 | 370 | 2,95 | 460 | 19,27 | 560 | 37,85 | 660 | 41,56 | 760 | 39,26 | 1150 | 18,34 |
| 280 | 0,00 | 380 | 2,83 | 470 | 20,92 | 570 | 39,60 | 670 | 43,22 | 770 | 37,72 | 1200 | 18,57 |
| 290 | 0,00 | | | 480 | 22,14 | 580 | 39,42 | 680 | 45,08 | 780 | 36,35 | | |

Data subject to change without notice

De Luca Alfonso
Responsible Alfonso De Luca