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Color Temperature Adjustment Filters Provide Warm or Cool Color Hues for Technical or Aesthetic Illumination

August 23, 2023 - ZC&R Coatings for Optics (ZC&R) and Abrisa Industrial Glass, (AIG) both Abrisa Technologies Companies supply custom and cut to order Thermally Resistant BOROFLOAT® 33 Color Temperature Orange (CTO) and Color Temperature Blue (CTB) adjustment filters in sizes from as small as 5mm up to 27 in. (685mm) diameter. According to Lisa M. Tsufura, Product Manager for ZC&R, "These color temperature adjustment filters are used in a wide variety of lighting applications including architectural and cinematic lighting, analytical test equipment and solar simulators, surgical room lighting, medical imaging, security spotlight illumination and more. They are used to selectively transmit some specific spectral portions of the light so as to adjust or change the color appearance of the light for aesthetic or technical reasons." Lisa further explains, "The lower color temperatures are associated with "warmer" color or more orange/red hues while higher color temperatures with "cooler" color or more bluish hues."



The CTO and CTB color temperature adjustment filters are used to give lighting a warmer or cooler color hue as well as change one light source's output to look like another by converting LED or Tungsten light output, so it looks like natural sunlight. Or the filters can be used to manage color temperature distribution of LEDs with a selection of adjustment filters to deliver a more consistent color temperature output without yield fall out and the need for LED "binning".

Abrisa Technologies' CTB Filters adjust output from a tungsten halogen light source at 3200K to bluer color temperatures. As an example, a Full CTB filter converts 3200k tungsten halogen output to 5500K to appear like bright midday sunlight. Abrisa Technologies can provide CTB filters in 1/8, 1/4, 1/2, and Full ranges dependent upon the color temperature shift required.

Abrisa Technologies' CTO Filters adjust color temperature from 5500k or midday sunlight to a warmer color temperature with more orange, amber content. A Full CTO filter would make midday bright blue/white sunlight appear warmer like 2900K incandescent lighting or late afternoon or early am sunlight. Abrisa Technologies can provide CTO filters in 1/8, 1/4, 1/2, and Full ranges dependent upon the color temperature shift required.

In addition to CTO and CTB color adjustment filters, Abrisa Technologies also supplies plus/minus green, RGB, CYMK color filters, dichroics, mired shift coatings, and diffusive and patterned glass all of which are useful for color imaging applications needing specific color content, adjustment of color temperature, color correction or more diffuse illumination patterns.

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<u>Abrisa Technologies</u>, a member of HEF Photonics, is a globally recognized technology glass fabrication and optical thin film coating company with expertise in high volume manufacturing and engineering capabilities, delivering Total Solutions that provide excellent performance, fitness-for-use, and economies of scale.

Our US based, state-of-the-art ISO 9001:2015 and ITAR registered facilities include Abrisa Industrial Glass in Santa Paula, CA, and ZC&R Coatings for Optics in Torrance, CA. These two divisions produce solutions from cut-to-order coated glass components to custom complex and ready-to-install fabricated, strengthened, optically coated, electronically enabled, and branded sub-assemblies.

Our Total Solutions serve a variety of markets including Micro-Electronics, Defense and Avionics, Display, Industrial Automation, Optical Sensors, Imaging, Photonics, Medical & Dental, Life Science, and more.

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