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The explosive increase in the demand for transmission capacity for optical communications networks has resulted in a widespread deployment of dense wavelength division multiplexing (DWDM). Thin film filters are a critical component of DWDM devices. They consist of Fabry-Perot resonant cavities obtained by vacuum deposition on a glass substrate of alternating layers of two dielectric materials of different indices of refraction. The performance requirements for these filters are determined by the density of channels to be multiplexed. For the 100 GHz ITU grid, these channels are spaced 100 GHz (0.8 nm) apart. Typical figures of merit include the insertion loss (IL), band width (BW) at 0.5 dB and at 25 dB below peak transmission, and the shape factor (BW@ 25 dB) / (BW@ 0.5 dB). The thermal drift of the transmission profile of the filter and the thermal stability of its insertion loss are two of the ``killers'' of thin-film filter devices. In this work, the thermal behavior of the wavelength-dependent transmission profile for several commercially-available thin-film filters for WDM is investigated, and the temperature limits for proper operation are determined. Comparison with other components for DWDM (such as Fiber-Bragg gratings and/or fused WDM devices) may also be included. <small>To cite this abstract, use the following reference: http://meetings.aps.org/link/BAPS.2007.OSS07.P1.8</small>

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