CHAPTER 5 - DAY LIGHTING AND VISUAL COMFORT

405.01 PROVISION OF NATURAL DAYLIGHT

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INTENT

To promote energy savings and to improve the well-being of building occupants.

REQUIREMENT

For all new buildings, other than industrial buildings, provision for adequate natural daylight must be made in order to reduce the reliance on electrical lighting and to improve conditions for the building occupants. The provided lighting openings must be in accordance with Dubai Municipality's building regulations and specification.

SIGNIFICANCE

Provision of natural light has a profound impact on the well-being of building occupants. It has a positive health impact, increases productivity in workplaces and improves performance of occupants. Natural light also provides occupants with a connection to the outdoor environment. This allows the occupant to adapt to natural changes of daylight levels throughout the day. Providing natural light also reduces energy consumption.

Glazed elements allow natural light into the interior of the building. Large glazed surfaces can cause visual discomfort for building occupants due to excessive brightness, and also consume higher energy. Also highly tinted glazed surfaces reduce the natural light transmitted thereby increasing reliance on electrical lighting. Integrating a well-designed daylight strategy not only reduce the incidence of glare and discomfort but can also reduce the need for electrical lighting. This also contributes in reduction of energy consumption and reduction of carbon emissions.

APPLICABILITY

This regulation is applicable to all building types except industrial buildings. Refer to Table 101.07(1) in Section One - Administration for detailed applicability levels.

IMPLEMENTATION

The factors affecting the design and control of daylight in buildings include: required internal illumination, size of the windows or glazed elements, properties of the glass, surrounding obstructions, colour of the internal surfaces and sky conditions over the year.