Dentherm—EU Directives, National Legislation and Standards[1]

The Dentherm calculation model follows EU's Directives 2010/31/EU, 2018/844/EU, and 2019/944/EU, Decrees-law 118/2013 for cases up to July 1, 2021, and Decrees-law 101-D/2020 for cases after that date. Regarding the methodology, both models follow the same standards framed by Technical Order no. 6476-H/2021 through the SCE Manual, which transcribes a large part of those standards.

The EN ISO 13790:2008 defines the assessment based on seasonal and hourly calculation models called the "5R1C model". The latter applies to commerce and service buildings assessment (single thermal zone model). Housing resorts to the seasonal model, following the methodology defined by the Technical Order 349-C/2013. The input of data into the calculation model defined above requires the use of other standards, as follows:

- ISO Standard 6946—calculation of thermal resistance and thermal conductivity of the elements;
- ISO 13370 Standard—calculation of heat transmission through the floor (elements in contact with the ground);
- ISO 10077-1 Standard—Calculation of thermal conductivity of glazed areas;
- EN 15242 Standard—Determination of ventilation flow rate in buildings;

The existing buildings lack information to bypass the standards and resort to the legislation "Simplification Rules" limited to:

- LNEC, ITE 50 tables on thermal transmittance coefficients of building envelope elements follow the ISO 10077-1 Standard;
- LNEC, ITE 54 tables (annexes) on thermal transmittance coefficients of building opaque envelope elements follow the ISO 6946 Standard; and,
- Technical Order No. 15792/K-2013 tables 03 and 06 on calculating the thermal parameters follow the ISO 13370 Standard.

[1] Densare's Engineer Nuno Nunes shared this information with the author by email on 30 November 202.