Minergie® LATAM Regulations

Regulations governing Minergie® Certification in Latin America and the Caribbean

Version 2025.1

Adjustments to version 2024.1 are colored in blue.

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1 Background

Developed 25 years ago in Switzerland, the MINERGIE® building standard[1] is currently the most important and widely used building standard in the country. As a result of Minergie, the Swiss building sector has been able to significantly reduce its energy demand and CO_2 emissions, thereby contributing to climate change mitigation. This veritable success story is largely due to close local ties and cooperation among all the players in the construction sector.

Minergie is an internationally registered trademark owned by the Swiss Cantons of Zürich and Bern and at the disposal of the Minergie Association, a non-profit institution backed by the Swiss government, the Swiss cantonal offices of energy and the private sector.

Minergie LATAM follows the same approach: all the requirements provided under the standard are aimed at reducing energy consumption, minimizing greenhouse gas emissions, promoting renewable energy production and increasing user comfort. In doing so, Minergie LATAM ensures that constructions are adapted to climate change and their value is preserved over time.

In use in Chile and Mexico since 2021 and 2022, respectively, the standard has been designed to fit local socio-cultural and supply aspects, as well as the various climates present throughout Latin America.

2 Purpose of the Regulations

The regulations governing the Minergie LATAM standard as presented herein provide an account of the compulsory requirements to be met in order for a building to be *Minergie-certified*. These regulations focus solely on the core aspects of the requirements without mention of good practices or legal building requirements.

In countries in Latin America where Minergie has physical representation offices and/or has gained certain market relevance, specific national regulations based on the Minergie LATAM standard regulations (e.g., Chile, Mexico) will apply. These national regulations, published separately, take into account local sourcing, legal, regulatory and climate specifications as well as the regional socio-cultural aspects of the country concerned, so that it is also possible to turn to national verification procedures.

Minergie LATAM Regulations and national Minergie Regulations in Latin America should be used in conjunction with the Minergie LATAM Standard Application Guide, which serves as a useful document for Minergie applicants, planners and experts. The Application Guide contains notes and explanations relative to compulsory requirements, as well as the type of verification document required to demonstrate compliance with requirements.

[1] MINERGIE® is a protected registered trademark. For purposes of readability, the term "MINERGIE®" is replaced by "Minergie" throughout this document.

3 Scope and Limitations

The Minergie LATAM standard is applicable to new residential, office and educational buildings located in Latin American and Caribbean countries that do not have country specific Minergie regulations. It is intended for Spanish-speaking countries, but the certification office can be contacted to assess the possibility of certifying a project documented in another language. Buildings with an additional use other than the ones listed above (e.g. commercial, retail or other) can also be certified under this regulation, as long as this other use does not exceed 20% of the building's useful area. These uses (for which the Minergie standard does not apply) will not be evaluated under a Minergie certification.

Mixed-use buildings are defined as buildings in which at least 2 different use zones each represent more than 20% of the useful area. In this case, the requirements for the respective use apply to each of the zones.

In the case of buildings with zones with residential / office or educational use that occupy less than 10% of the total useful floor area, this zone will not be evaluated under a Minergie certification.

Example: in a building with a building area distribution of 60% residential, 25% office and 15% retail, the following applies:

- Minergie does not apply to stores, but since the surface area represents less than 20%, this area can be ignored in the certification process (it will not be evaluated);
- The residential zone must meet the requirements for residential buildings, the office zone must meet the requirements for office buildings.

The intent is to progressively develop the Minergie standard so that it may also be applied to other buildings (e.g., hotels).

4 Minergie Certification

Minergie is a certification system for sustainable, high-quality buildings. Minergie-certified buildings have high levels of energy efficiency, are heated and/or air-conditioned without fossil fuels, are more environmentally friendly and provide a comfortable living space. As such, they contribute to climate change mitigation by reducing construction sector CO_2 emissions.

Minergie offers planning and investment security, as well as integrated design, whilst considering measures to guide all parties involved. As a result of passive design, relevant and efficient use of technologies, and quality control, Minergie provides users with the certainty that they are planning a truly sustainable, climate-friendly and comfortable building through a few measures. The key to success is requiring only the bare minimum, whilst always considering and optimizing the buildings as a complete system. In doing so, Minergie ensures that buildings are climate-change adapted and that their value is preserved over time.

Years of experience in the construction of Minergie buildings in Switzerland made it possible to identify a set of basic rules to ensure that the features making up Minergie buildings are reliably delivered and supported by a simple, efficient verification system. These basic rules are the basis for Minergie certification in Latin America. To allow for greater leeway in terms of planning, verification documents based on more detailed calculations

or justifications that demonstrate compliance with the objectives provided under each requirement are also accepted.

Compliance with the Minergie LATAM standard requires meeting a set of specific requirements corresponding to the abovementioned basic rules. These requirements apply to the building envelope, building technologies, the environmental impact of the building as well as user comfort and health. The level of these requirements is intended to ensure that Minergie's primary objectives are achieved: energy efficiency associated with fossil fuel-free, on-site heating, cooling and water heating production, user comfort, as well as the preservation, quality and appreciation of the buildings' value.

5 Certification Process

The Minergie certification process is broken down into provisional certification (steps 1 - 4) and final certification (steps 5 - 6).

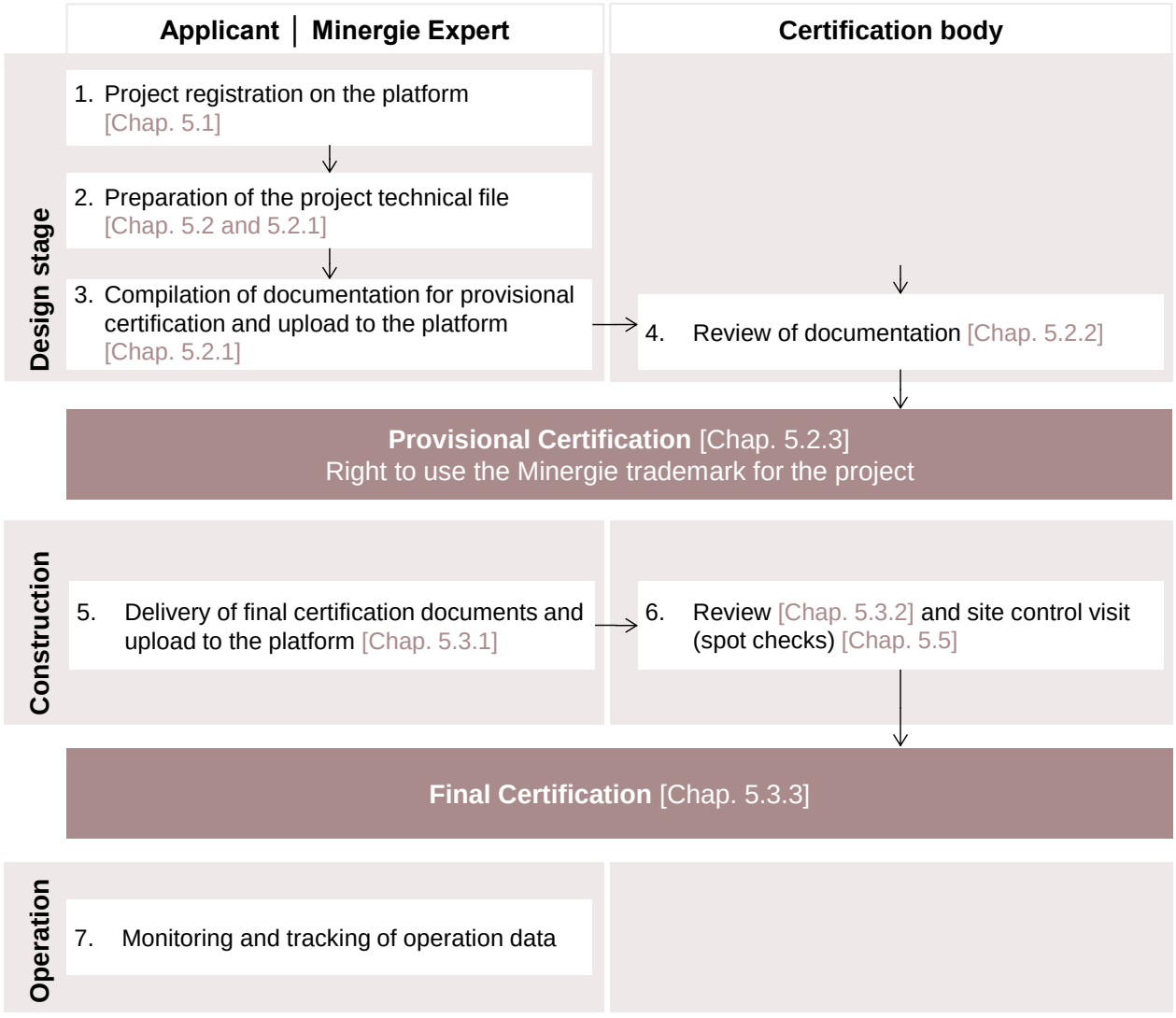

Figure 1: Schematic overview of the Minergie certification process

5.1 Project Registration

The Minergie LATAM certification process begins with registering the project on the Minergie platform and is formalized with a form signed by the applicant. General and technical data relative to the building along with information about the project team are required at this stage.

It is advisable that a Minergie expert accompany the project from its early design stages to ensure compliance with the Certification System requirements.

5.2 Provisional Certificate

The purpose of the provisional Minergie certificate is to identify and promote the construction of a Minergie project. Once the provisional certificate is obtained, the building can be considered a *Minergie Building.* As such, it will be published on the **www.minergie.com** website and the owner/applicants will be able to use the Minergie logo in their advertising campaigns.

The provisional certificate may be requested during the project design and/or construction phases, provided that sufficient progress has been made to demonstrate compliance with Minergie LATAM requirements.

It is possible to apply for the provisional certificate and the final certificate at the same time, in the event the project has not previously applied for the provisional certificate and the owner/applicants wish to certify a recently completed project as Minergie LATAM-certified. However, it is advisable to register and provisionally certify a project in its early stages to ensure compliance with Minergie requirements from the design stage. The more advanced a project is in its development phases, the more costly it will be to integrate measures that had not been previously considered.

5.2.1 Submitting Documentation

To apply for provisional certification, the Minergie expert must collect a series of supporting documents and upload them to the Minergie platform, as provided under the Minergie LATAM Standard Application Guide.

Documents of this nature are collected or issued either during or after the construction stage. As such, when applying for a provisional certificate, applicants may temporarily replace these documents with statements of intent and/or technical specifications where the requirements are clearly expressed.

Once all project information is completely uploaded to the Minergie platform, it can be submitted for review by the certification body, which will review and verify the project, recording as the date of submission the date on which the project documentation was uploaded to the platform.

The Minergie LATAM Regulations, Application Guide and all other Minergie Association provisions in effect on the date of project registration, shall govern the guidelines for the entire certification procedure.

5.2.2 Review

Certification applicants must submit payment of the certification fee to the certification body before said body can begin reviewing project documentation.

Incomplete or incorrect applications may be returned to the applicant for correction. If the application is not completed within three months of being returned, the certification procedure may be discontinued.

All documentation submitted is subject to a technical plausibility review, limited to the content of the Minergie LATAM regulation, to verify compliance with certification requirements. The certification body itself is not obliged to carry out a detailed verification or to calculate relevant values on the basis of the information submitted. The certification body assumes no obligation to verify the quality of planning works and engineering services.

After reviewing the information submitted, the certification body issues a provisional certificate or comments on items needing corrected. In the latter case, the applicants and the Minergie expert can amend the project, upload additional supporting documents to the platform, and re-submit a project validation request. The deadline for completing the information will be determined on the basis of the quantity and nature of the corrections or clarifications required. Should applicants fail to meet the requirements again, additional costs will be charged for subsequent validations.

5.2.3 Issuance of the Provisional Certificate

If the outcome of the review process is positive, a digital version of the provisional Minergie certificate will be issued to the applicants and the owner of the building.

As soon as the project's provisional certificate is issued, it will appear on the list of buildings posted on the Minergie LATAM website, with a description based on the information submitted to the platform.

The provisional certificate is valid for three years. If the final application is not submitted within this period, the provisional certificate will be rendered invalid, and the building will be removed from the list of Minergie LATAM buildings. When justified, the Minergie expert may request an extension of up to two additional years from the certification body.

5.3 Final Certificate

5.3.1 Submitting Documentation

The final Minergie certificate can only be requested after project completion. In fact, the first step involves attaching the work delivery document to the application form as confirmation the project has been implemented in accordance with Minergie LATAM requirements. In doing so, the architects, specialists and Minergie experts in charge of the project assume responsibility for the quality of the work.

Before requesting the final certificate, the information available on the Minergie platform must be updated and all supporting documents must be uploaded, as provided under the Minergie LATAM Standard Application Guide.

Any changes to the project made subsequent to submitting the application for final certification that result in a difference between the building and the information provided to justify compliance with Minergie LATAM requirements, must be reported immediately to the certification body and all necessary amendments must be

made at verification. These changes could lead to additional certification costs owing to the additional reviews required.

5.3.2 Review

Review pursuant to Chapter 5.2.2.

5.3.3 Issuance of the Final Certificate

If the outcome of the review is positive, applicants will receive the final Minergie certificate and the Minergie plaque (which can be posted, for example, at the entrance of the building). Both items contain the registration number and information on the version of the Minergie LATAM regulation according to which the building was certified.

Applicants are obliged to forward the certificate and plaque to the owner of the building. In justified cases, the Minergie Association has the right to deliver the certificate and plaque directly to the builder/owner of the building (with copies of the certificate sent to the applicant), provided that all conditions for issuance have been met and the corresponding fees have been paid.

The final Minergie certificate is valid for an unlimited period of time, provided that no energy-relevant changes are made to the building.

5.4 Maintaining Certificate in Effect

5.4.1 Energy-Relevant Changes to the Building

In the event that any relevant changes regarding energy efficiency of a Minergie building are implemented (e.g., changes to the heating or cooling system, or extensions of the conditioned area), the Minergie certificate will be rendered invalid.

Should you wish to preserve the certificate, all changes must be communicated to the certification body by e-mail. The certification body will review the changes and issue confirmation in the form of a project file to the building owner if the review outcome is positive.

This process is subject to additional costs which are charged according to the amount of time the certification body requires to assess the changes. Up to 50% of the final certification fee may be charged (see Chapter 6).

It is not necessary to report changes to the heating system if the energy source remains the same (e.g., a pellet boiler is being replaced by another pellet boiler). It is also not necessary to report changes to windows if the thermal transmittance (U-value) of the new windows is equal to or less than the previous windows.

5.5 Random Inspections, Verifications and Penalties

The certification body may carry out random inspections on construction sites and in the building to verify compliance with the Minergie LATAM regulations. This may occur at any time as of the date of submission of the provisional certificate and up to five years after the final certificate is issued.

The certification body must perform a random inspection on at least 20% of the projects that received a provisional certificate or a final certificate, every year. Generally speaking, the buildings scheduled for inspection are selected at random. Moreover, the timing and arrangements relative to the inspections are at the discretion of the certification body, which is under no obligation to announce them.

Users of the Minergie label are obliged to cooperate with these random inspections and with collecting related information. In particular, they undertake to provide the necessary information to the persons entrusted by the Minergie Association to carry out the random inspection within the specified time limits and, if necessary, to grant them access to the buildings or technical facilities in coordination with the owner/builder. The persons in charge of the random inspection are obliged to keep all data confidential.

The certification body usually bears the costs of the random inspections. However, should any significant irregularities come to light during the random inspection, the user shall incur the inspection costs. Significant irregularities are defined as any irregularity that has an impact on the outcome of the certification procedure and/or that infringes upon the main obligations deriving from the regulations in effect. In the event of uncertainty, an irregularity shall be deemed significant.

In the case of justified reservations concerning the condition of the building during a random inspection, follow up and additional tests may be conducted. These also include inspections to verify the quality of the corrective actions taken. All related costs and fees will not be included in the certification fees and will be invoiced additionally to the user based on the time investment required. Insofar as irregularities are detected during the course of the quality inspections, the right to impose additional penalties in accordance with the Regulations governing usage of the Minergie brand is expressly reserved.

6 Rates

6.1 Basic rates

The Minergie LATAM certificate is subject to the payment of a fee which is determined according to the type of building and its size. This fee must be paid in two stages, i.e., when the applicant submits the documentation requested when applying for the certificate, otherwise the project will not be evaluated: 60% of the certification fee must be paid for the provisional certificate and the remaining 40% for the final certificate. Additional fees must be paid when the corresponding service is rendered. For further information on fees, please refer to the user Regulations.

Fees cover the standard project evaluation process, as well as two rounds of additional documentation review (supplemental verification documentation), a random inspection (see Chapter 5.5.1), delivery of the provisional and final certificates and plaque issuance. Any additional services performed by the certification body, such as a third round of additional documentation review (e.g., in the event the first two rounds were not completed satisfactorily), are not included in the fees and will be invoiced by the certification body as additional costs according to the work required. Notably, in accordance with Chapter 5.5, random inspection costs may also be charged to applicants in the event significant irregularities are detected.

Rates in US dollars (USD)

Individual Houses*	
≤ 100 m^2	\$8 / m^2
101-200 m^2	\$6 / m^2, in addition to the above range
> 200 m^2	\$5 / m^2, in addition to the above range
Vertical or Multi-Family Housing	
4 to 10 units	\$284 / unit
11 to 25 units	\$142 / unit, in addition to the above range
26 to 50 units	95 / unit, in addition to the above range
51 to 100 units	47 / unit, in addition to the above range
101 to 200 units	\$14 / unit, in addition to the above range
> 200 units	\$9 / unit, in addition to the above range alternatively open to specific agreement
Offices or educational buildings	
≤ 100 m^2	\$960
101-200 m^2	\$6 / m^2, in addition to the above range
201-500 m^2	\$5 / m^2, in addition to the above range
>500 m^2	\$2.5 / m^2, in addition to the above range alternatively open to specific agreement

*The square meters refer to the built area. VAT is included in the rates.

6.2 Special rates

For mixed-use buildings, i.e. buildings with at least two different uses (see exact definition in Chapter 3), the basic rates for offices apply to the entire building's useful area.

For offices, educational buildings or mixed-use buildings with more than 10,000 m^2 of usable area, the certification body must be contacted at an early stage. The certification body will prepare an offer specifying the certification fee depending on the complexity of the audit (type of use, number and area of zones, others).

7 Requirements

The Minergie standard comprises mandatory and elective requirements, all of which are aimed at improving the energy efficiency of a building, ensuring user comfort, and mitigating climate change.

To obtain certification, **all mandatory requirements and at least one third of the applicable elective requirements must be met, depending on the project climate zone**.[2] Selection of the elective requirements to be met is at the applicant's discretion.

In all cases, compliance with national and municipal laws and regulations applicable to the building project is a prerequisite for obtaining Minergie certification and these laws are not repeated in the Minergie LATAM standard regulations.

The table appearing on the following page provides an overview of the requirements for each type of building. Their application pursuant to the climate zone is indicated in the appendix or in the Pre-Check that can be downloaded from the website **Minergie International**.

[2] Defined according to ASHRAE climate zones.

	Requirement	Applicability by type of building		
		Housing	Office	Educational b.
ARCHITECTURE (A)	A1. Project Data and Space Definition	O	O	O
	A2. Thermal Insulation of the Envelope	O	O	O
	A3. Reducing Thermal Bridges and Airtightness	O	O	O
	A4. Thermal Use of Solar Radiation	O	O	O
	A4.a Use of daylight	-	-	E
	A5. Exterior Solar Protection of Windows	O	O	O
	A6. Natural Ventilation	O	O*	O*
	A6.a Openings Designed for Natural Air Flow	E	E	E
	A6.b Low-Tech Measures for Generating Air Flow	E	E	E
	A6.c Passive Humidification Cooling	E	E	E
	A7. Reducing the Carbon Footprint	O	O	O
	A7.a Local Renewable Materials as Main Structure	E	E	E
	A7.b Local Renewable Materials as Main Non-Structural Materials	E	E	E
	A7.c Ease of Replacement	E	E	E
	A7.d Ease of Disassembly	E	E	E
	A8. Bioclimate Outdoor Space	O	O	O
	A8.a Green Roof	E	E	E
	A8.b Heavy Metal-Free Construction Components Exposed to Rain	E	E	E
	A8.c No Chemical Root Protection on Sealing Membranes	E	E	E
	A9. Healthier Indoor Spaces	O	O	O
	A9.a Noise Protection	E	E	E
	A9.b No Biocides Indoors	E	E	E
TECHNOLOGIES (T)	T1. Fossil Fuel-Free, Efficient Energy Production	O	O*	O
	T1.a Insulation of Distribution Pipelines	E	E	E
	T2. Self-Generated Energy	O	O*	O
	T2.a Usable Roof Surface with Photovoltaic Panels	E	E	E
	T3. Energy-Efficient Appliances and Lighting	O	O*	O*
	T4. Continuous Ventilation for a Comfortable, Healthy Indoor Environment	O	O*	O*
	T4.a Supply Air Filtration	E	-	-
	T4.b Demand-controlled Ventilation System	-	E	E
	T5. Efficient Cooling	O	O*	O*
	T5.a Free Cooling	E	E*	E*
	T5.b Active Cooling with Humidification	E	E	E
	T6. Efficient Water Use	O	O*	O*
	T6.a Rainwater Harvesting and Use	E	E	E
	T6.b Gray Water Use	E	E	E
	T6.c Small Water Treatment Plant	E	E	E
OPERATION (O)	O1. User Manual	O	O	O
	O2. Measuring Consumption	O	O*	O
	O2.a Energy Consumption Control	E	-	E
	O2.b Temperature and Humidity Control	E	E	E
	O3. Indoor air quality control	-	O	O

Table 1. Table of Minergie LATAM requirements and applicability of requirements to building types (O = mandatory requirement, E = elective requirement, * = requirement differs from base requirement, - = requirement does not apply).

A. ARCHITECTURE

A1. Project Data and Space Definition

Objective: Provide general information on the project and define the scope of the certification as well as the spaces to be included in the project and their characteristics.

A1. Project Data and Space Definition	**Mandatory for**	**Housing Office Educational I.**

Climate Zones: All of them

Provide diagrams that clearly define the orientation of the building, insulation and airtightness perimeters, the project's conditioned area, type of use, location and climate zone classification.

A2. Thermal Insulation of the Envelope

Objective: Achieve an adequate level of thermal insulation for each climate zone, by reducing energy losses through the exterior perimeter.

A2. Thermal Insulation of the Envelope	**Mandatory for**	**Housing Office Educational I.**

Climate Zones: All of them

At a minimum, the building's thermal envelope must comply with the following thermal transmittance (U-value) in [W/(m² K)]:

	Exterior Protection				**Protection against Unconditioned Spaces and Land**		
ASHRAE Climate Zones	**Roofs** [1]	**Walls, Floors**	**Windows** [3]	**Doors**	**Walls**	**Floors**	**Doors**
0, 1, 2	0.4 (light const.) [2] 0.6 (solid const.)	0.65 (light const.) 0.75 (solid const.)	1.9 (Glazing > 40%) [4] 3.8 (Glazing ≤ 40%)	1.9	-	-	3.0
3 Locations with HDD < 1000 and CDD < 3000 [5]	0.6	-	-	-	-	-	-
3 Other locations, project without heating and without cooling	0.4 (light const.) 0.5 (solid const.)	0.4 (light const.) 0.6 (solid const.)	-	-	-	-	-
3 All other projects	0.4 (light const.) 0.5 (solid const.)	0.4 (light const.) 0.6 (solid const.)	3.0 (Glazing > 40%) [4] - (Glazing ≤ 40%)	3.0	-	-	3.0
4	0.3 (light const.) 0.4 (solid const.)	0.4 (light const.) 0.5 (solid const.)	1.9	1.9	0.4 (light const.) 0.5 (solid const.)	0.5	3.0
5	0.25	0.25	1.9	1.9	0.4	0.5	3.0
6, 7	0.18	0.18	1.5	1.5	0.25	0.25	3.0

Table 2. Threshold values in [W/(m² K)] for thermal transmittance (U-value) of the building envelope according to ASHRAE climate zones.

Notes to the table:

[1)] "Roofing" means a system composed of roof surfaces and ceilings of any floor against unheated roof spaces.

[2)] In the case of lightweight roofing, walls and floors (wood or metal), the effective thermal transmittance (U-value) must be calculated, taking into account differences produced by static elements of which the element is composed. The values for solid construction (e.g. brick, concrete, etc.) only apply if the elements are located within the insulation perimeter.

[3)] The U-value refers to the glass of the window (U_g).

[4)] Climate zones 0 - 3 The threshold value for thermal transmittance (U-value) of windows depends on the proportion of glazing. The proportion of glazing is determined for each façade individually and not for the entire building.

[5)] For buildings in climate zone 3 with less than 1,000 heating degree days (GDC 18) and less than 3,000 cooling degree days (GDR 10), the requirement is limited to the roof.

Correcting thermal transmittance (U-value) threshold values pursuant to compactness

Values appearing in Table 2 are applicable to buildings with a compactness index of two or more than two and may be attenuated for a compactness index of less than two.

Definition of compactness c:

$$c = \frac{A_t}{A_s} \quad [-]$$

c = Compactness index
A_t = $A_{thermal}$ = area of the envelope
A_s = $A_{conditioned\ area}$ = conditioned area of the house

For buildings with a compactness index of less than two, the required U-values for the opaque portions of the envelope to the exterior can be attenuated according to the following formula:

$$U_{attenuated} = U_{threshold} \times c_a \quad [W/(m^2\ K)]$$

c_a =compactness attenuation factor

$$c_a = \left(\frac{3}{1+c} - 1\right) \times 0.5 + 1 \qquad [-]$$

A3. Reducing Thermal Bridges and Airtightness

Objective: Design the insulation perimeter in a continuous manner, in order to avoid specific energy losses and reduce the risk of condensation.

A3. Reducing Thermal Bridges and Airtightness	**Mandatory for**	**Housing Office Educational I.**

Climate Zones: 4, 5, 6 and 7

All conditioned spaces (heated or cooled) must be considered within the perimeter delineated by the thermal insulation layer and the airtightness layer and must maintain their continuity throughout the envelope.

Linear thermal bridges with Psi values higher than 0.5 W/(m K) and point thermal bridges with Chi values in the order of 0.5 W/K should be avoided in the thermal envelope.

Like the thermal envelope, the building envelope should also be conceived as an airtightness perimeter. At the most important and frequent structural joints in the envelope (e.g. wall to roof, window to wall attachment, building foundation, etc.), detailed sketches must be used to show how continuity is given to the airtight layer and the effects of thermal bridging are minimized.

A4. Passive Use of Solar Radiation

Objective: Improve the passive design of buildings by taking advantage of solar radiation.

A4. Thermal Use of Solar Radiation	**Mandatory for**	**Housing Office Educational I.**

Climate Zones: 0B, 1B, 2B, 3, 4, 5, 6 and 7

The use of passive solar energy must help keep the indoor temperature above the lower comfort limit. To this end, the following measures should be taken:

- Windows should be installed in the building envelope so that solar radiation can reach the interior when the outside air temperature is significantly below the lower comfort limit (for simplification, 14 °C can be assumed to be the relevant critical daily average temperature).
- To ensure that the desired incoming solar energy does not cause excessive overheating, while still contributing to keeping the 24-hour temperature range within the comfort temperature band, solar energy must be stored in the building structure. Information on how to assess this requirement is provided in the Application Guide.

A4.a Use of daylight	**Elective for**	**Educational I.**

Climate Zones: All of them

The illumination of the classrooms shall be fully ensured by daylight in at least 50 % of the hours when daylight is sufficient for illumination.

A5. Exterior Solar Protection of Windows

Objective: Avoid excessive solar radiation during the hottest time of the year since this can cause overheating and an excessive increase in energy demand for cooling.

A5. Exterior Solar Protection of Windows	**Mandatory for**	**Housing** **Office** **Educational I.**

Climate Zones: Applies only to zones 0, 1, 2 and 3.

Ninety percent (90%) of all transparent surfaces of the building envelope must be effectively protected against direct solar radiation during the hours when there is a risk of overheating indoors. This can be achieved with glazing systems (glass, possibly in combination with movable or fixed sunscreens) with a $SHGC_{modified} < 0.2$ or by reducing solar irradiation through windows equivalently, using shading near or far from the window.

For the sake of simplicity, it can be assumed that the "hours when there is a risk of overheating indoors" are all the hours of the day when the outside temperature is above 28°C.

A6. Natural Ventilation

Objective: Ensure the necessary air renewal in each case, so that there is good indoor air quality and thermal comfort conditions are maintained when outdoor climate conditions are favorable.

A6. Natural Ventilation	**Mandatory for**	**Housing** **Office** **Educational I.**

Climate Zones: All of them, with reinforcement in zones 0, 1, 2 and 3.

There must be a clear concept of air exchange based on a continuous airtightness perimeter (which usually coincides to a large extent with the insulation perimeter). Openings such as windows and doors are part of the insulation and airtightness perimeter. When closed, they must ensure that the building's airtightness is so good that excessively warm or cold outside air only penetrates in such small quantities that it does not significantly affect indoor thermal comfort.

The sizing and arrangement of openings must allow for a sufficient and adequate supply of fresh air at all times.

Climate Zones 0, 1, 2 and 3: Additionally, for warm and temperate climate zones, the possibility of natural cooling must be ensured during periods of lower outdoor temperatures than indoor temperatures.

In cases where night cooling is ensured by natural ventilation, the following conditions must be met:

- Openings must be designed to be rainproof and burglary-proof and must represent at least 4% (housing and offices), respectively 8% (educational institutions) of the floor area (or the minimum percentage imposed by law or regulation for this type of building in the project country).
- A cross-ventilation situation with openings (e.g., windows) on two parallel faces is always better than one-sided ventilation only. For room depths greater than 4 m, cross ventilation is mandatory, at least with ventilation through openings located perpendicularly to each other (corners).

Version for offices and educational institutions:

The basic requirement applies, but cross ventilation is not mandatory in rooms over 4 m deep. In cases where cross ventilation is not provided, it is recommended that air circulation is generated in another way (see e.g. A6.b Low-tech measures for the generation of air currents).

A6.a Openings Designed for Natural Air Flow	**Elective for**	**Housing Office Educational I.**

Climate Zones: 0, 1, 2 and 3.

Include openings in the architectural design that are intended to increase airflow, which enhances natural cross ventilation. This can be done through conceptual solar chimneys, Canadian wells, interior courtyards or any other passive design that demonstrates its positive effect on ventilation.

A6.b Low-Tech Measures for Generating Air Flow	**Elective for**	**Housing Office Educational I.**

Climate Zones: 0, 1, 2 and 3.

Include fans in the design to generate air flow, e.g., ceiling fans that improve thermal comfort by increasing air flow.

A6.c Passive Humidification Cooling	**Elective for**	**Housing Office Educational I.**

Climate Zones: 0, 1 and 2.

In climate zones where it is a contribution to comfort, air cooling is achieved by passively generated humidification. This involves the use of cooling pools, misting systems, wet cloths, jets, fibrous cloths, etc., combined with air injection.

A7. Sustainable Materials and Reducing the Carbon Footprint

Objective: Calculate and reduce the building's carbon footprint.

A7. Reducing the Carbon Footprint	**Mandatory for**	**Housing Office Educational I.**

Climate Zones: All of them

This requirement calculates the carbon footprint of the building and favors the use of low environmental impact construction materials. The following requirements must be met:

- Calculate the building's carbon footprint in the operations stage.
- Calculate the building's carbon footprint in the construction stage (embodied energy).

– Prioritize regionally sourced construction materials and products over distant products, provided their quality is equivalent.
– Timber: Certificate for sustainable management.

A7.a Local Renewable Materials as Main Structure	**Elective for**	**Housing Office Educational I.**

Climate Zones: All of them

At least 70% of the above-ground load-bearing structure and envelope elements, such as exterior walls and roofs, must be composed of local renewable materials.

A7.b Local Renewable Materials as Main Non-Structural Materials	**Elective for**	**Housing Office Educational**

Climate Zones: All of them

At least 70% of the non-structural construction systems, finishes, cabinets and fixed furniture must be made from local renewable materials.

A7.c Ease of Replacement	**Elective for**	**Housing Office Educational I.**

Climate Zones: All of them

Owning to their characteristics, materials, components or parts used in the construction of the building can wear out quicker than the other parts with which they are assembled. These are called "wear parts," and they must be easily replaceable, without destroying adjacent materials (e.g., unnecessary breakage of walls, fittings, etc.). This means that such short-lived wear parts must not be embedded in the longer-lived components.

A7.d Ease of Disassembly	**Elective for**	**Housing Office Educational I.**

Climate Zones: All of them

Fastening systems considered among the different construction structures are removable and mechanical (not requiring use of adhesives), to allow for replacement, reinforcement or reuse of the construction elements, without damaging or having to additionally change the adjoining construction elements.

A8. Environmental Impact of the Building and Outdoor Space

Objective: Reduce the impact of the building on the environment (flora, fauna, water cycle, etc.) and minimize the heat island effect.

A8. Bioclimate Outdoor Space	**Mandatory for**	**Housing Office Educational I.**

Climate Zones: All of them

The following requirements apply to the building's outdoor spaces:

- At least 5% of the space around the building must be occupied by hedges, rows or groups of trees adapted to the site. Trees already existing on the construction site should remain.
- At least 35% of the outdoor space must have vegetation (includes, for example, spaces with hedges or trees as per the previous point).
- All vegetation must be native or adapted.

In cases where all outdoor spaces are occupied by circulation areas, the applicant must propose an individual solution as a basis for the arguments to be submitted to the certification body for approval.

A8.a Green Roof	**Elective for**	**Housing Office Educational I.**

Climate Zones: All, except zones 0B, 1B and 2B.

At least 50% of the roof surface area must be vegetated.

A8.b Heavy Metal-Free Construction Components Exposed to Rain	**Elective for**	**Housing Office Educational I.**

Climate Zones: All of them

Building components (such as roofing materials, facades and windowsills) that are exposed to rain containing heavy metals (lead, copper, zinc titanium raw, galvanized steel, steel) are prohibited. The materials will only be evaluated in their bare form, i.e. uncoated. On exception, these materials (except lead) are authorized for use on an area covering less than 10% of the roof (and 50 m^2 maximum) and less than 25% (and 300 m^2 maximum) of the facades.

A8.c No Chemical Root Protection on Sealing Membranes	**Elective for**	**Housing Office Educational I.**

Climate Zones: All of them

The use of chemical root protection on sealing membranes on flat roofs or underground construction elements is prohibited.

A9. Healthier Indoor Spaces

Objective: Improve the quality of indoor spaces to reduce negative impacts on user health and comfort.

A9. Healthier Indoor Spaces	**Mandatory for**	**Housing Office Educational I.**

Climate Zones: All of them

The following restrictions on the use of products that have a negative impact on human health are considered:

- Lead-based paints are prohibited.
- Wood treated with CCA (Copper, Chromium and Arsenic) or with SBX (boron oxide) based products is prohibited.
- Paints and varnishes containing solvents or VOCs exceeding 25% by mass are prohibited in conditioned interior spaces.
- Wood or wood-based materials and products with a high formaldehyde content are prohibited to be in contact with interior spaces.
- Materials releasing respirable mineral fibers (e.g., mineral fiber insulation materials) should not be in direct contact with the room air. A complete lining, e.g., with boards, fleece or reinforced paper, is required.

Compliance with these requirements must be verified with products bearing recognized labels, with indications in the product data sheets or by laboratory tests carried out by the material manufacturer.

A9.a Noise Protection	**Elective for**	**Housing Office Educational I.**

Climate Zones: All of them

The following requirements must be met to reduce noise pollution from the outside and between living units of different users (e.g. two tenants). These requirements can be achieved by using typical, recognized constructions (see Application Guide) or by submitting a separate supporting document:

- Minimum airborne sound reduction value for vertical and horizontal elements to the exterior (except doors and windows) >45 dB(A).
- Minimum airborne sound reduction value for doors and windows as a function of their percentage of surface area on the exterior perimeter.
- Minimum airborne sound reduction value for vertical dividing elements between different user units (except doors) >55 dB(A).
- Minimum standardized impact sound pressure value of horizontal slabs <60 dB.
- Anchoring water and sewer pipes with elastic fasteners.

A9.b No Biocides Indoors	**Elective for**	**Housing Office Educational I.**

Climate Zones: All of them

Do not use biocides or wood protection products containing biocides in conditioned indoor spaces.

T. TECHNOLOGIES

T1. Fossil Fuel-Free, Efficient Energy Production

Objective: Reduce greenhouse gas emissions during the building's operational phase.

T1. Fossil Fuel-Free, Efficient Energy Production	**Mandatory for**	**Housing Office Educational I.**

Climate Zones: All of them

Using fossil fuels to generate heat or cooling for on-site heating, cooling and domestic hot water is not allowed (this does not apply to the fossil energy component of the electricity grid).

Using direct resistance electricity in fixed installations for heating or domestic hot water is only allowed for emergencies and as an additional backup source (max. 20% of the total heating capacity).

Using fossil energy sources for cooking and other applications should also be avoided, if possible. If this is impossible, unreasonable or not very reasonable, the average annual demand for fossil fuels must be offset by additional electricity generation on the property itself (see requirement T2).

No more than one third of the energy in urban heating networks and district heating networks can come from fossil fuels.

Self-generated electricity: Fossil fuel-powered generators are prohibited, except for backup generators required for health or safety reasons. Unrestricted use of batteries can be considered in the event of grid outages. Using generators for this purpose is tolerated only under the conditions indicated in the Application Guide.

Indoor heaters or stoves located in living spaces (e.g., wood stoves) should have lockable slow combustion chambers and a direct supply of combustion air from the outside.

Version for offices:

Using fossil fuels to generate heat or cooling for on-site heating, cooling and domestic hot water is not allowed (this does not apply to the fossil energy component of the electricity grid).

Using direct resistance electricity in fixed installations for heating or domestic hot water is only allowed for emergencies and as an additional backup source (max. 20% of the total heating capacity).

No more than one third of the energy in urban heating networks and district heating networks can come from fossil fuels.

Self-generated electricity: Fossil fuel-powered generators are prohibited, except for backup generators required for health or safety reasons. Unrestricted use of batteries can be considered in the event of grid outages. Using generators for this purpose is tolerated only under the conditions indicated in the Application Guide.

Regarding biomass combustion, the use of firewood is prohibited (pellets and wood chips are allowed). Indoor heaters or stoves located in living spaces must have lockable slow combustion chambers and a direct supply of combustion air from the outside.

T1.a Insulation of Distribution Pipelines **Elective for** **Housing Office Educational I.**

Climate Zones: All of them

Hot water storage tanks must be insulated with a thickness of at least 100 mm.

Hot water distribution pipes (domestic hot water and hot water for heating system) must contain thermal insulation with a thermal conductivity equal to or less than 0.038 W/(mK) with a minimum thickness pursuant to the values shown in the table below:

		Pipe Diameter [mm]		
		< 20	**20 a 50**	**> 50**
		Insulation Thickness [mm]		
Climate Zones 0, 1, 2 & 3	DHW	20	20	20
	Heating	-	-	-
Climate Zones 4, 5, 6 & 7	DHW	20	40	40
	Heating	20	40	40

Table 3. Threshold values for the thermal insulation of heat distribution pipes

The following pipes do not have to comply with the requirements indicated in the table:

- Piping from solar thermal systems (indoor and outdoor)
- Piping less than 20 m long without recirculation, if they are located within the isolation perimeter (i.e. in a conditioned environment).

For air ducts (ventilation system), measures must be taken to prevent condensation (e.g. duct insulation) in cases where the air temperature in the duct does not match the air temperature outside the duct.

T2. Self-Generated Energy

Objective: Produce energy on site to cover part of the building's energy consumption.

T2. Self-Generated Energy — **Mandatory for** **Housing** **Office** **Educational I.**

Climate Zones: All of them

A Minergie building must have a self-production energy system using one of the technologies listed in the table below and the corresponding minimum power/size. It is permissible to base the required self-production energy system on a mix of technologies.

Energy Generation System	Minimum Power / Size		Maximum Power / Size *
	Electric Range	Gas Range	
A) Photovoltaic System	0.010 kWp / m^2 ERA	0.013 kWp / m^2 ERA	30 kWp
B) Solar Collectors	0.050 m^2 / m^2 ERA	0.065 m^2 / m^2 ERA	150 m^2

Table 4. Minimum size of energy self-production system. * If the specified power or area is exceeded when calculating the system size based on the area (ERA), the requirement is considered to be met with 30 kWp of installed PV power or 150 m^2 of solar collectors.

It is also possible to use other renewable technologies (e.g. wind energy). In this case, the average annual electricity production must correspond to that of a photovoltaic system according to A) (proof by professional calculation).

Version for offices:

The base requirement applies and is supplemented by the following: In offices the use of gas stoves is prohibited, therefore, it is not possible to compensate for a gas stove.

T2.a Usable Roof Surface with Photovoltaic Panels — **Elective for** **Housing** **Office** **Educational I.**

Climate Zones: All of them

Full use of the entire useful roof surface for photovoltaic installation, with justified exceptions of a maximum of one third of the area for other purposes, such as for terraces, roof penetrations or other types of structures.

In the event that the self-produced energy exceeds the energy needed to meet the mandatory T2 requirement and equals the average annual net energy consumption of the building, this requirement is considered fulfilled, even if the roof is not completely covered with photovoltaic panels.

T3. Energy-Efficient Appliances and Lighting

Objective: Reduce energy consumption during building operation by using high-efficiency electrical equipment and lighting.

T3. Energy-Efficient Appliances and Lighting	**Mandatory for**	**Housing** **Office** **Educational I.**

Climate Zones: All of them

Appliances: All electrical equipment fixed and integrated with furniture and technical spaces must have one of the best energy efficiency labels available on the national market. Heating, cooling and ventilation equipment are not considered in this requirement.

Lighting: Only LED lighting fixtures will be accepted for use in all project areas.

Version for offices and educational institutions:

The basic requirement applies to appliances.

The following requirement applies to lighting in offices and educational institutions:

The following requirements must be fulfilled in all rooms and outdoor areas of the project (including parking lots and circulation areas):

- Only LED lighting fixtures are used.
- The installed power must not exceed 8 W/m^2. However, local regulations regarding light quality must always be complied with.

In addition, a strategy for optimizing the consumption of the lighting system is implemented, e.g. through automation (motion detectors for switching on and off in passageways and covered parking spaces, daylight-dependent control, etc.). The implemented system must:

- Cover at least 80% of the installed lighting output or
- Be applied in all regularly used rooms / areas.

The optimization strategy must ensure that energy consumption is reduced without compromising user comfort.

T4. Continuous Ventilation for a Comfortable, Healthy Indoor Environment

Objective: Continuously renew the air inside each space.

T4. Continuous Ventilation for a Comfortable, Healthy Indoor Environment **Mandatory for** **Housing Office Educational I.**

Climate Zones: All of them

Buildings located in places with more than 1,500 heating degree days (HDD 18)[3] or more than 3,500 cooling degree days (CDD 10) equipped with heating or cooling systems must have an automatic continuous air renewal system.

In climates with more than 2,500 heating degree days or more than 3,500 cooling degree days, the energy content of the exhaust air during the heating and cooling seasons should be recovered and used for heating and cooling, respectively. At least half of the energy losses due to air exchange should be avoided this way.

Summary:

	Building without heating or cooling system	**Building with heating or cooling system**		
		≤ 3500 CDD and		**> 3500 CDD or**
		< 1500 HDD	**1500 - 2500 HDD**	**> 2500 HDD**
Automatic continuous air renewal system	Voluntary	Voluntary	Mandatory	Mandatory *

Table 5. Automatic continuous air renewal system according to the heating degree days (HHD) / cooling degree days (GDR).
* With obligation to use the energy content of the exhaust air.

Version for offices and educational institutions:

An automatic continuous air renewal system (mechanical ventilation) is mandatory in all buildings. This system must fulfill the following characteristics:

- Supply air filtration in accordance with requirement T4.a (T4.a is not considered an elective requirement in offices and is therefore not counted individually).
- Sound emission (distance 1 or 3m): maximum 40 dB(A).
- Elastic vibration-damping mounts/anchors (e.g. elastomer straps) on ducts and connections.
- Raise user awareness of the ideal use of mechanical ventilation compared to natural ventilation.
- In rooms where comfort or health are important (e.g. offices with more than 3 people, meeting rooms, schools, etc.), 30% more than the locally required volume flow rates must be implemented. If there are no local standards, at least 30% more than the current ASHRAE 62.1 standard must be implemented.
- In climates with more than 2,500 heating degree days or more than 3,500 cooling degree days, the energy content of the exhaust air during the heating and cooling seasons should be recovered and used for

[3] Heating degree days should be used with a base temperature of 18°C, while cooling degree days consider a base temperature of 10°C (e.g. from www.degreedays.net). Definition of degree days, measured in Kelvin days (Kd): Sum of the products of all hours with the temperature difference between the outside temperature and the base temperature. These degree days are derived from the ASHRAE definition and are also applicable to the ASHRAE climate zones.

heating and cooling, respectively. At least 70 % of energy losses due to air exchange must be avoided in this way.

- Only buildings in rural areas that are in an ideal climate zone, namely with less than 500 heating degree days (GDC 18) and less than 1500 cooling degree days (GDR 10) are not obliged to be equipped with a mechanical ventilation system.

T4.a Supply Air Filtration	**Elective for**	**Housing**

Climate Zones: All of them

Applies only to projects with a mechanical ventilation system. The ventilation system must be equipped with filters. The supply air filter class corresponds to F7 (ISO ePM2.5 65% and ISO ePM1 50%).

Version for offices and educational institutions:

This requirement is integrated into the mandatory requirement T4.

T4.b Demand-controlled Ventilation System	**Elective for**	**Office Educational I.**

Climate Zones: All of them

The volume flow rates of the mechanical ventilation system vary automatically depending on room usage conditions (e.g. CO2 content in rooms, time control, presence control, etc.). The user can regain control at any time and change the air flow rate manually.

T5. Efficient Cooling

Objective: Ensure that the indoor temperature is within the comfort range while maintaining low energy consumption.

T5. Efficient Cooling	**Mandatory for**	**Housing Office Educational I.**

Climate Zones: All of them, with reinforcement in zones 0, 1 and 2.

When it is not possible to ensure thermal comfort during hot periods, in spite of implementing passive comfort measures, an active cooling system can be installed. The cooling equipment must be rated at least SEER 7 [kW/kW] or 22 [BTU/Wh] (according to European or US calculation method, respectively). In addition, the use of the following refrigerant products is prohibited:

- CFCs (chlorofluorocarbons, fully halogenated)
- HCFCs (hydrochlorofluorocarbons, partially halogenated)
- HCFO (hydrochlorofluoroolefins, partially halogenated)
- HFC/PFC (fluorocarbons, partially or fully halogenated), except for those tolerated in the application guide.

In climate zones 0, 1 and 2 mechanical cooling is only allowed in the presence of a mechanical ventilation system with energy recovery. This requires a ventilation system with supply and exhaust air ducts and an energy recovery unit. Condensation should be avoided whenever possible, or properly collected and drained to prevent moisture damage.

Version for offices and educational institutions:

The base requirement applies and is supplemented by the following: the installed cooling system must not exceed the required cooling capacity (calculated demand) of the building by more than 15%.

T5.a Free Cooling

Elective for **Housing** **Office** **Educational I.**

Climate Zones: 0, 1, 2 and 3.

A free cooling system is installed. This means that the building's cooling system has the option of passively releasing heat into the environment and thus reducing the energy consumption for cooling. This can be achieved, for example, through geothermal probes in the ground or in a large body of water (sea, lake, groundwater) or through a heat exchanger with the outside air in environments with sufficiently low temperatures to cool the building.

Version for offices and educational institutions:

The base requirement applies in all climate zones.

T5.b Active Cooling with Humidification

Elective for **Housing** **Office** **Educational I.**

Climate Zones: 0B, 1B, 2B, 3B.

The mechanical ventilation system incorporates an additional adiabatic cooling system that cools the exhaust air by humidifying it. A heat exchanger then transfers the cooled air to the supply air.

In very dry climates, directly cooling the injected air by way of humidification is also valid in the ventilation system, either as an additional or exclusive component. This is valid only in very well-ventilated rooms.

T6. Efficient Water Use

Objective: Reduce the net consumption of potable water and make efficient use of water by separating it according to its qualities: potable, rain, gray and black.

T6. Efficient Water Use	**Mandatory for**	**Housing Office Educational I.**

Climate Zones: All of them, with reinforcement in climate zones 0B, 1B, 2B and 3B.

The following requirements apply to all climate zones:

- Development of a water use efficiency concept showing what measures are taken to minimize potable water demand and wastewater discharge into sewers.
- Demonstrate that there is a functional treatment of black water on the property or complex or municipality.
- Installation of efficient sanitary fixtures, with the following maximum flush volumes and flows, considering a pressure of 3 bar in the hydraulic network:

Installation	**Unit**	**Requirement**	**When applying elective criterion T6.a, along with criterion T6.b or criterion T6.c**
Toilet	Maximum discharge volume	5 liters and small quantity button	In the case of a cascade system, a discharge volume and a maximum flow rate up to 50% higher than the requirement can be considered for all installations. In the case of a closed loop system, neither the discharge volume nor the maximum flow rates apply.
Non-kitchen faucet	maximum flow	6 liters/minute	
Kitchen faucet	maximum flow	6 liters/minute	
Shower/tub	maximum flow	8 liters/minute	

Table 6. Discharge volume and maximum flow rate for sanitary furniture/fixtures.

In addition, in climate zones 0B, 1B, 2B and 3B at least one irrigation system water consumption reduction measure must be implemented.

Version for offices and educational institutions:

The base requirement applies and is supplemented by the following: Installation of timers (sensors / push button) on washbasins and showers. Exceptions are taps in kitchens and in areas where hands are constantly washed (e.g. in school washrooms).

T6.a Rainwater Harvesting and Use	**Elective for**	**Housing Office Educational I.**

Climate Zones: All of them

Collect/harvest and use rainwater in compliance with local regulations, e.g., in toilet tanks and/or for irrigation.

T6.b Gray Water Use	**Elective for**	**Housing Office Educational I.**

Climate Zones: All of them

Reuse gray water (from showering, washing clothes, sinks) in the building by running it through a cascade or closed-loop system. For instance, use in toilet tanks and/or for irrigation.

T6.c Small Water Treatment Plant	**Elective for**	**Housing Office Educational I.**

Climate Zones: All of them

Installation of a small local wastewater treatment plant. Treated water should be used in compliance with local regulations in a closed-loop cycle (e.g., irrigation, toilets, car wash), or discharged as clean water into a body of water and thus closing its natural cycle (cascade system).

O. OPERATION

O1. User Manual

Objective: Facilitate the use and efficiency of the building in the operational phase.

O1. User Manual	**Mandatory for**	**Housing Office Educational I.**

Climate Zones: All of them

Each building user must receive a manual containing all relevant information on the technical characteristics, quality and sustainability of the building, its operation and maintenance.

O2. Measuring Consumption

Objective: Create user awareness regarding user consumption and the elements that can influence it.

O2. Measuring Consumption	**Mandatory for**	**Housing Office Educational I.**

Climate Zones: All of them

In each Minergie building, the consumption of both the electricity and water mains is monitored during operation.

At a minimum, this means having an electricity main meter and a water meter accessible to the user, as well as a form on which to record this consumption.

Version for offices:

The base requirement applies and is supplemented by the mandatory application of requirement O2.a (O2.a is not considered as an elective requirement in offices and is therefore not counted individually).

O2.a Energy Consumption Control	**Elective for**	**Housing Educational I.**

Climate Zones: All of them

Meters are available for all energy consumed (e.g. kWh of pellets or woodchips) and produced (e.g. photovoltaic panels, solar thermal systems) in the building, in addition to energy from the electric power grid cited under Requirement O2. These meters shall have a display screen accessible to the user. Ideally, a monitoring system will be installed for all or some of the energy consumption.

Version for offices:

This requirement is integrated into the mandatory requirement O2.

O2.b Temperature and Humidity Control	**Elective for**	**Housing Office Educational I.**

Climate Zones: All of them

Temperature and humidity sensors are installed in at least half of the spaces included in the insulation perimeter of the building. These sensors must be visible and accessible to the user.

O3. Indoor air quality control

Objective: Create user awareness regarding indoor air quality.

O3. Indoor air quality control	**Mandatory for**	**Office Educational I.**

Climate Zones: All of them

In rooms with an occupancy density of ≤ 4 m^2 per person and in rooms intended for at least 15 people, CO_2 sensors visible to the users are installed. The sensor must give a (visual or audible) signal to users if the CO_2 concentration exceeds 1,000 ppm. The user manual should contain information on typical CO_2 concentration values and instructions on the measures to be taken depending on the concentration displayed.

8 Final Provisions

8.1 Validity

These regulations were approved by the Board of Directors of the Minergie Association on January 2025, and will be effective as of February 10, 2025.

Certification procedures already in progress at the time this document comes into force (provisional or final) will be processed in accordance with the version of the Minergie regulations in force at the time of the project registration.

Supporting documents for provisional certification in accordance with the old regulations (version 2024.1) will be accepted until August 30, 2025.

9 Acronyms

ASHRAE:	American Society of Heating, Refrigerating and Air-Conditioning Engineers
CDD:	Cooling Degree Days (the number beside CDD, e.g. CDD 10, indicates that 10°C is considered as the reference temperature for calculating CDD).
DHW	Domestic Hot Water
ERA:	Energy Reference Area
HDD:	Heating Degree Days (the number beside HDD, e.g., HDD 18, indicates that 18°C is considered as the reference temperature for calculating HDD).
LATAM:	Latin America
SEER:	Seasonal Energy Efficiency Ratio
SHGC:	Solar Heat Gain Coefficient

10 Appendix

	Requirements	Applicability in ASHRAE Climate Zones																			
		0		1		2		3			4			5			6		7	
		A	B	A	B	A	B	A	B	C	A	B	C	A	B	C	A	B	-	
ARCHITECTURE (A)	A1. Project Data and Space Definition																			
	A2. Thermal Insulation of the Envelope																			
	A3. Reducing Thermal Bridges and Airtightness																			
	A4. Thermal Use of Solar Radiation																			
	A4.a Use of daylight																			
	A5. Exterior Solar Protection of Windows																			
	A6. Natural Ventilation																			
	A6.a Openings Designed for Natural Air Flow																			
	A6.b Low-Tech Measures for Generating Air Flow																			
	A6.c Passive Humidification Cooling																			
	A7. Reducing the Carbon Footprint																			
	A7.a Local Renewable Materials as Main Structure																			
	A7.b Local Renewable Materials as Main Non-Structural Materials																			
	A7.c Ease of Replacement																			
	A7.d Ease of Disassembly																			
	A8. Bioclimate Outdoor Space																			
	A8.a Green Roof																			
	A8.b Heavy Metal-Free Construction Components Exposed to Rain																			
	A8.c No Chemical Root Protection on Sealing Membranes																			
	A9. Healthier Indoor Spaces																			
	A9.a Noise Protection																			
	A9.b No Biocides Indoors																			
TECHNOLOGIES (T)	T1. Fossil Fuel-Free, Efficient Energy Production																			
	T1.a Insulation of Distribution Pipelines																			
	T2. Self-Generated Energy																			
	T2.a Usable Roof Surface with Photovoltaic Panels																			
	T3. Energy-Efficient Appliances and Lighting																			
	T4. Continuous Ventilation for a Comfortable, Healthy Indoor Environment																			
	T4.a Supply Air Filtration																			
	T4.b Demand-controlled Ventilation System																			
	T5. Efficient Cooling																			
	T5.a Free Cooling										*			*			*		*	
	T5.b Active Cooling with Humidification																			
	T6. Efficient Water Use																			
	T6.a Rainwater Harvesting and Use																			
	T6.b Gray Water Use																			
	T6.c Small Water Treatment Plant																			
OPERATION (O)	O1. User Manual																			
	O2. Measuring Consumption																			
	O2.a Energy Consumption Control																			
	O2.b Temperature and Humidity Control																			
	O3. Indoor air quality control																			

Table 7: Table of Minergie LATAM requirements and applicability by climate zone (marked in brown = applicable in the climate zone considered). * In climate zones 4 - 7, requirement T5.a is only applicable in offices and educational institutions.