

# PT1 Provide Acceptable Thermal Environment – Option 1

## Technical Document (Shareable)

WELL Performance Rating™, Q4 2022 Addenda








### WHAT IS THIS DOCUMENT:

This document is intended to serve as a guide on how to create a **technical document to provide a thermal environment that the majority of building users find acceptable.**

This document and similar tools are intended to assist projects in their pursuit of the WELL Performance Rating™ but use of this document and/or similar tools are in no way a guarantee of achievement of any rating or designation, and no representation or warranty is made regarding the likelihood of achieving any rating or designation.

Note: The below document is based on the Q4 2022 addenda of the WELL Performance Rating™. Project teams are required to implement the feature requirements from the addenda version assigned to their project or any more recent addenda version.

### HOW TO USE THIS DOCUMENT:

- ☐  Read the [below feature requirements](#) (or the feature requirements from the [addenda version assigned to your project](#), as relevant) and determine how your project addresses each requirement.
  - a. If your project is a WELL Core project, read through and ensure that your project follows the “WELL Core Guidance.”
  - b. Make sure to apply the feature requirements appropriate to your project’s space types. For example, if your project has both dwelling units and other space types, ensure your project is applying the requirements under “For Dwelling Units” to the dwelling unit spaces and applying the requirements under “For All Spaces except Dwelling Units” to the other space types. Check out the [WELL Performance Rating™ digital standard](#) for the exact language on your project’s space types.
- ☐  Refer to the [below example document](#) to get an idea of how to set up your documentation.
- ☐  Collaborate with your stakeholders to gather the [relevant documentation](#) that demonstrates the project’s compliance with the feature. Some examples of relevant documentation include:
  - a. a letter from a hired professional outlining services provided
  - b. the project’s floor plans
  - c. a modeling report
- ☐  Create a technical document using existing documentation where relevant, annotating it to clarify where feature requirements are met. Some examples of annotating include:
  - a. highlight the sections relevant to WELL requirements
  - b. circle or add boxes around particular data
  - c. add notes to confirm WELL requirements
  - d. add labels to draw attention to particular sections
  - e. provide an explanation of the connection to WELL requirements using a different colored font
  - f. check out the [WELL Documentation Annotation Guide](#) for more
- ☐  Name the document so that it is easily identifiable. Some examples for naming include:
  - a. name the document using the WELL feature code
  - b. name the document using the WELL feature name
  - c. name the document using the WELL document type
- ☐  Review the document you’ve created and ensure that all the necessary WELL requirements are fully and clearly addressed.
  - a. Note: the level of detail is up to the discretion of the project team, but the document must include specific details demonstrating that the actual requirements have been enacted in the project boundary. Features cannot be demonstrated solely through a written confirmation that the WELL requirements have been or will be implemented.
- ☐  Upload the document to the checklist in the WELL digital platform, after you’ve confirmed that the document fully and clearly addresses all the necessary WELL requirements.



## FEATURE REQUIREMENTS:

### For All Spaces except Commercial Kitchen Spaces

The following requirements are met, as applicable:

- a. Mechanically conditioned regularly occupied spaces meet thermal comfort conditions of PMV +/- 0.5 for at least 90% of regularly occupied spaces.<sup>121</sup>
- b. Naturally conditioned regularly occupied spaces meet all the following conditions:<sup>120</sup>

	Prevailing mean outdoor temperature, $t_{pma(out)}$	Indoor operative temperature	Notes
Minimum	50 °F [10 °C]	$t_{pma(out)} \times 0.31 + 47.9$ °F [14.3 °C]	N/A
Maximum	92 °F [33.5 °C]	$t_{pma(out)} \times 0.31 + 60.5$ °F [21.3 °C]	Occupant-controlled elevated air speed may be used to increase this maximum per ASHRAE 55

- c. Mixed-mode-conditioned spaces meet the requirements for both mechanically and naturally conditioned spaces, when each is in operation.

#### WELL Core Guidance:

Meet these requirements in the whole building. Mechanically conditioned or mixed-mode ventilated spaces must provide heating and cooling capacity in leased spaces but are not required to install ducts in leased spaces. Performance testing will be conducted in regularly occupied non-leased spaces, provided these areas comprise at least 2.5% of the total project area. Otherwise, see the WELL Performance Verification Guidebook for testing locations.



The below sample documentation is intended to provide guidance in creating a technical document. It is not a template. You may note included components that are not required to demonstrate compliance with this feature.



## Example document for PT1 Provide Acceptable Thermal Environment - Option 1

### [Project name] Performance Verified Environmental Conditions

**Project description:** A 4-story office building with a restaurant with counter service on the first floor.

**Project location:** San Francisco, CA, USA

**Ventilation:** Mixed mode

**Modes of Conditioning:** Cooling and heating.

**PMV targets when mechanical ventilation is being used in all spaces except the restaurant's commercial kitchen:**

- PMV range: -0.5 to 0.5
- At least 90% of occupied hours
- At least 90% of regularly occupied spaces

**Temperature thresholds when natural ventilation is being used in all spaces except the restaurant's commercial kitchen:**

Temperatures must remain within the ranges set in the table in [PT1 Option 1.b](#) (which gives formulas for temperatures relative to the outdoor temperature.)

**Temperature threshold in commercial kitchen:** The operative temperature must not exceed 80°F. (Operative temperature is an average of the dry bulb temperature and the mean radiant temperature).

#### Assumptions:

Location	Season	Clo value	Met value
Office	Heating	1.0	1.1
Office	Cooling	0.7	1.1
Restaurant – dining occupants	Heating	1.0	1.1
Restaurant – dining occupants	Cooling	0.7	1.1
Restaurant – wait staff	Heating	1.0	1.7
Restaurant – wait staff	Cooling	0.7	1.7
Restaurant Commercial Kitchen	NA	NA	NA

**Airspeeds at 0.6 – 1.7m above floor (project is using elevated air speed calculation in the restaurant):**

- Restaurant dining – 0.3 m/s

**Source of outdoor air temperature data:** [www.weather.com](http://www.weather.com)

#### [Note, this section is optional]

**For the Performance Testing Agent in regards to temperatures on the day of testing:**

Outdoor design temperatures for meeting PMV requirements if mechanical system is being used during testing:

- Maximum: [PROVIDE MAXIMUM]
- Minimum: [PROVIDE MINIMUM]
- Data is taken from: [PROVIDE SOURCE OF DATA]

If natural ventilation system is being used during testing, please use guidance specified in the “Verification Tab” of PT1 Option 1. *The average of the mean daily outdoor temperature of the previous 7 days. (The mean daily outdoor temperature is the average of at least two temperatures, measured at evenly spaced intervals over a 24-hr period.)*

## **TIPS FOR MULTIPLE LOCATIONS**

- For organizations pursuing the WELL Performance Rating for multiple locations, the technical document for this feature is categorized as shareable. It may be shared across multiple projects, as long as they all meet the strategies that are outlined in the document.