# 1226PH PASSIVE HOUSE PROJECT - SPECIAL REQUIREMENTS

## 1. GENERAL

 This section relates to the implementation and delivery of a Certified Passive House building. It includes requirements that modify the standard specification sections and clauses. This section is to be read in conjunction with the contents of this specification.

 **CERTIFIED PASSIVE HOUSE**

### 1.1 RELATED WORK

 Refer to 1234 DOCUMENTATION

 Refer to 1239 OPERATION & MAINTENANCE

 Refer to 1260 PROJECT MANAGEMENT

 Refer to 1270 CONSTRUCTION

### 1.2 ABBREVIATIONS AND DEFINITIONS

 Refer to the general section 1232 INTERPRETATION & DEFINITIONS for abbreviations and definitions used throughout the specification.

 The following abbreviations are used in this specification section:

 ACH Air changes per hour

 The following definitions apply specifically to this section:

|  |  |  |
| --- | --- | --- |
| Passive House Standard: | The Passive House Standard as determined and administered by the Passivhaus Institut, Darmstadt, Germany. |  |
|  MVHR Commissioning Standard | The PHI MVHR Final Protocol as determined and administered by the Passivhaus Institut, Darmstadt, Germany. |  |

### 1.3 DOCUMENTS

 Refer to the general section 1233 REFERENCED DOCUMENTS.

 The following documents are specifically referred to in this section:

 - EN 13829 Thermal Performance of buildings - Determination of air permeability of buildings - Fan pressurisation method, (method A) or ISO 9972 (method 1) for both positive pressure AND negative pressure and the result averaged to determine the leakage rate which is reported in either fan flow rate m3/hr @ 50Pa or ACH and the building net air volume used. The net air volume in accordance with EN 13829 shall be used for calculation of the n50 value. The air leakage test shall only include the conditioned building volume. The air leakage test report shall document the calculation of the indoor air volume or verify on-site architectural calculations.

 It is recommended that the test be carried out when the air control layer is still accessible so that needed repairs can be carried out more easily.

 It is also recommended that the final air leakage test should be carried out by an institution or person independent of the client or contractor. An air leakage test that has been carried out by a party associated with the project (client, builder or PH designer/consultant) is only acceptable if the test result is signed by someone taking personal responsibility for the accuracy of the information provided.

 For air leakage values between 0.6 h-1 and 1.0 h-1, extensive leakage detection must be carried out during the air leakage test, large leaks that may cause building fabric damage repaired and documentation of this provided with the test results.

 Documents listed above and cited in the clauses that follow are part of this specification.

 **REQUIREMENTS**

### 1.4 SPECIAL REQUIREMENTS

 Clauses in this section are additional to or modify clauses in other standard sections. This section should be read in conjunction with the rest of this specification.

### 1.5 CONTRACTOR'S PASSIVE HOUSE SITE CO-ORDINATOR

 The contractor shall designate an on site person (or persons) responsible for instructing workers, overseeing and documenting results for Passive House requirements.

Notify the Contract Administrator of this person's contact details.

 **DOCUMENTATION**

### 1.6 OPERATIONS & MAINTENANCE MANUAL

 Special requirements for 1239 OPERATION & MAINTENANCE

 An Operations and Maintenance Manual which provides detailed information for owners/building managers on the systems of the building and its ongoing operation and maintenance.

## 2. MATERIALS, PRODUCTS AND SYSTEMS

 **SUBSTITUTIONS**

### 2.1 ACCEPTABLE PRODUCTS AND MATERIAL SUPPLIERS

 Special requirements for 1234 DOCUMENTATION.

 Where a product or material supplier is named in this Specification, the product/material must be provided by the named supplier, unless indicated otherwise. No substitutions will be accepted.

### 2.2 NO SUBSTITUTIONS

 Special requirements for 1234 DOCUMENTATION.

 Where specifically stated in the drawings or this Specification, product/material/system substitutions are not permitted, unless otherwise stated or approved in writing by the Contract Administrator or Passive House consultant (if there is one).

### 2.3 PROPOSED SUBSTITUTIONS

 Special requirements for 1234 DOCUMENTATION.

 Delete the clause with the same title from 1234 DOCUMENTATION.

### 2.4 NOTIFICATION OF SUBSTITUTIONS

 Special requirements for 1234 DOCUMENTATION.

 Delete the clause with the same title from 1234 DOCUMENTATION.

### 2.5 ACCEPTANCE OF SUBSTITUTIONS

 Special requirements for 1234 DOCUMENTATION.

 Delete the clause with the same title from 1234 DOCUMENTATION.

### 2.6 CONTRACTOR VARIATION TO BUILDING CONSENT

 Special requirements for 1234 DOCUMENTATION.

 Delete the clause with the same title from 1234 DOCUMENTATION.

## 3. EXECUTION

 **Construction**

### 3.1 CONSTRUCTION

 The construction details shown in the project drawings have been specifically designed to achieve Passive House certification.

 **No deviation from the detailed construction method is permitted unless approved in writing by the Contract Administrator or Passive House consultant (if there is one).**

### 3.2 AIRTIGHTNESS

 Install, test and remedy defects in the airtightness system to ensure that the completed building will comply with the air permeability test requirements.

### 3.3 BLOWER DOOR TESTING

 Perform a Type B Blower Door test in accordance with EN 13829 at the completion of the installation of the airtightness system and while the airtightness system is accessible for remedying of defects.

 Perform a Type A Blower Door test in accordance with EN 13829 before Practical Completion to ensure the required air permeability test standard is achieved.

### 3.4 MVHR SYSTEM COMMISSIONING

 Commission the MVHR system in accordance with the MVHR commissioning standard.

### 3.5 HOLD POINTS

 Notify of hold point work/item, do not to proceed further with work/item until advised to continue.

 Notify: Contract administrator and Passive House consultant (if there is one)

 Notification: 2 working days prior to work/item being carried out.

 Hold Point Schedule

|  |  |  |
| --- | --- | --- |
|  **Location**  |  **Hold Point**  |  **Requirement**  |
| On-site | Prior to pouring of concrete floors and foundations | Inspection of installation of slab perimeter, under-slab and thermal break insulation |
| On-site | Prior to waterproofing of retaining wall insulation | Inspection of installation of retaining wall insulation |
| On-site | Prior to installation of INTELLO® internal airtightness system | Inspection of installation of thermal insulation |
| On-site | Prior to connection of INTELLO® internal airtightness system to external doors and windows | Inspection of installation of window and door insulation |
| On-site | At completion of plumbing first fix | Confirmation of compliance with documented system design |

 **Certification Documentation**

### 3.6 PHOTOGRAPHS

 Refer to 1260 PROJECT MANAGEMENT for requirements for photographs.

### 3.7 CONTRACTOR’S DECLARATION

 Supply to the Contract Administrator and Passive House consultant (if there is one) a signed Contractor's Declaration in a form acceptable to the Passive House Certifier and in accordance with ~reuquirement~ at Practical Completion.

### 3.8 AIR PERMEABILITY TEST REPORT

 Supply to the Contract Administrator and Passive House consultant (if there is one) an air permeability test report in a form acceptable to the Passive House Certifier at Practical Completion.

### 3.9 MVHR COMMISSIONING REPORT

 Supply to the Contract Administrator and Passive House consultant (if there is one) a MVHR commissioning test report in a form acceptable to the Passive House Certifier at Practical Completion.

### 3.10 OTHER DOCUMENTATION

 Obtain required documents from the relevant parties for delivery to the Contract Administrator and Passive House consultant (if there is one) at Practical Completion.

## 4. SELECTIONS

### 4.1 PRODUCTS AND MATERIALS

 Refer to the project drawings and the rest of the specification sections.

### 4.2 AIR PERMEABILITY TEST RESULT

 ≤ 0.6 ACH Type A test result in accordance with EN 13829.