

Model Specification Clauses for New Buildings Radon - Air - Moisture

[Select and modify, as appropriate, for each construction project]

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1. Radon, Air and Moisture Protection System (Ireland)

Radon, Air and Moisture Resisting Membrane: [Masonry Walls – Radon DPC]

A continuous membrane, joined to pre-formed corner sections, properly installed on site, the function of which is to provide an effective seal where a radon, air and moisture membrane must pass through masonry walls and designed cavities.

- 1.1 The **Radon DPC** on this project shall be **Easi-Load**, approved for use in Ireland by NSAI Agrément. The relevant NSAI Agrément Certificate shall be circulated to those organisations and individuals concerned with the installation and site technical control of the Membrane.
- 1.2 **Easi-Load** (NSAI Agrément Certificate No. 09/0328) is manufactured by Monarflex A/S of Denmark, and supplied by Necoflex Radon Control Systems of Clonshaugh, Dublin 17, Ireland; it shall be installed as shown on Drawing(s) No(s). _____ .
- 1.3 The **Radon DPC Corner Assembly** on this project shall be **Easi-Load Radon Corner Assembly**, approved for use in Ireland by NSAI Agrément. The relevant NSAI Agrément Certificate shall be circulated to those organisations and individuals concerned with the installation and site technical control of the Assembly.
- 1.4 **Easi-Load Radon Corner Assembly** (NSAI Agrément Certificate No. 09/0328) is manufactured and supplied by Necoflex Radon Control Systems of Clonshaugh, Dublin 17, Ireland; it shall be installed as shown on Drawing(s) No(s). _____ .

2. Radon, Air and Moisture Protection System (Ireland)

Radon, Air and Moisture Resisting Membrane: [Ground Floors]

A continuous membrane, properly installed on site, the function of which is to separate the interior spaces of a building from the underlying soil and resist the passage of radon soil gas (incl. Rn-222, Rn-220, RnD), air, liquid water and water vapour from the ground.

- 2.1 The **Radon, Air and Moisture Resisting Membrane** on this project shall be **Monarflex RAC***, approved for use in Ireland by NSAI Agrément. The relevant NSAI Agrément Certificate shall be circulated to those organisations and individuals concerned with the installation and site technical control of the Membrane.
- 2.2 **Monarflex RAC*** (NSAI Agrément Certificate No. 09/0328) is manufactured by Monarflex A/S of Denmark, and supplied by Necoflex Radon Control Systems of Clonshaugh, Dublin 17, Ireland; it shall be installed as shown on Drawing(s) No(s). _____ .
- 2.3 The **Radon, Air and Moisture Resisting Membrane** on this project shall be **Monarflex REFLEX SUPER***, approved in Ireland by NSAI Agrément. The relevant NSAI Agrément Certificate shall be circulated to those organisations and individuals concerned with the installation and site technical control of the Membrane.
- 2.4 **Monarflex REFLEX SUPER*** (NSAI Agrément Certificate No. 09/0328) is manufactured by Monarflex A/S of Denmark, and supplied by Necoflex Radon Control Systems of Clonshaugh, Dublin 17, Ireland; it shall be installed as shown on Drawing(s) No(s) _____ .
- 2.5 The **Radon, Air and Moisture Resisting Membrane** on this project shall be **Monarflex RMB 400**, approved for use in Ireland by NSAI Agrément. The relevant NSAI Agrément Certificate shall be circulated to those organisations and individuals concerned with the installation and site technical control of the Membrane.
- 2.6 **Monarflex RMB 400** (NSAI Agrément Certificate No. 09/0328) is manufactured by Monarflex A/S of Denmark, and supplied by Necoflex Radon Control Systems of Clonshaugh, Dublin 17, Ireland; it shall be installed as shown on Drawing(s) No(s). _____ .
- 2.7 The **Radon, Air and Moisture Resisting Membrane** on this project shall be **Monarflex RMB 350**, approved for use in Ireland by NSAI Agrément. The relevant NSAI Agrément Certificate shall be circulated to those organisations and individuals concerned with the installation and site technical control of the Membrane.

- 2.8 **Monarflex RMB 350** (NSAI Agrément Certificate No. 09/0328) is manufactured by Monarflex A/S of Denmark, and supplied by Necoflex Radon Control Systems of Clonshaugh, Dublin 17, Ireland; it shall be installed as shown on Drawing(s) No(s). _____ .
- 2.9 The **Radon, Air and Moisture Resisting Membrane** on this project shall be **Necoseal**, approved for use in Ireland by NSAI Agrément. The relevant NSAI Agrément Certificate shall be circulated to those organisations and individuals concerned with the installation and site technical control of the Membrane.
- 2.10 **Necoseal** (NSAI Agrément Certificate No. 09/0328) is manufactured by Monarflex A/S of Denmark, and supplied by Necoflex Radon Control Systems of Clonshaugh, Dublin 17, Ireland; it shall be installed as shown on Drawing(s) No(s). _____ .

*One of the six layers in Monarflex RAC and REFLEX SUPER is a 12 micron thick aluminium foil. Unbroken, this offers a very high level of resistance to the passage of soil gases other than Radon, e.g. the range of gases seeping from landfill sites or volatile organic compounds (VOC's) from nearby underground storage tanks. If specifying for this application please contact Necoflex for further details.

3. **Radon, Air and Moisture Protection System (Ireland)**

Radon, Air and Moisture Resisting Membrane [Penetrations - service and structural]

A continuous seal, properly installed on site, the function of which is to effectively close all penetrations (service and structural) which pass through a radon, air and moisture resisting membrane.

- 3.1 The **service penetrations** on this project shall be sealed using **Easi-Pour Liquid Radon Sealant**, approved for use in Ireland by NSAI Agrément. The relevant NSAI Agrément Certificate shall be circulated to those organisations and individuals concerned with the installation and site technical control of the Membrane.
- 3.2 **Easi-Pour Liquid Radon Sealant** (NSAI Agrément Certificate No. 09/0328) is manufactured by Icopal B.V. Holland, and supplied by Necoflex Radon Control Systems of Clonshaugh, Dublin 17, Ireland; it shall be installed as shown on Drawing(s) No(s). _____
- 3.3 The **service penetrations** on this project shall be sealed using **Easi-Flash Self-Adhesive Radon Flashing**, approved for use in Ireland by NSAI Agrément. The relevant NSAI Agrément Certificate shall be circulated to those organisations and individuals concerned with the installation and site technical control of the Membrane.
- 3.4 **Easi-Flash Self-Adhesive Radon Flashing** (NSAI Agrément Certificate No. 09/0328) is manufactured by Monarflex A/S of Denmark, and supplied by Necoflex Radon Control Systems of Clonshaugh, Dublin 17, Ireland; it shall be installed as shown on Drawing(s) No(s). _____

4. General

- 4.1 The **Radon, Air and Moisture Protection System** shall be installed in strict accordance with the principles of detailing shown in NSAI Agrément Certificate No. 09/0328 and with the project specific design and construction details shown on Drawing(s) No(s). _____ .
- 4.2 Immediately following completion of inspected installation, the **Radon, Air and Moisture Protection System** shall be protected from subsequent site damage by carefully covering with a screed, a continuous layer of high density expanded polystyrene (minimum density 25Kg/m^3) which has a minimum thickness of 25mm, or other protective layer – installed as shown on Drawing(s) No(s). _____ .
- 4.3 The **Radon Permeability** of the Radon, Air and Moisture Resisting Membrane installed on this project shall not exceed a figure, taking into account measurement uncertainty, of $10 \times 10^{-12} \text{ m}^2/\text{s}$.
- 4.4 The **Moisture Vapour Transmission Rate** of the Radon, Air and Moisture Resisting Membrane installed on this project shall not exceed a figure, taking into account measurement uncertainty, of $0.4 \text{ g/m}^2/24\text{hr}$.
- 4.5 The Radon, Air and Moisture Resisting Membrane installed on this project shall be properly shown to be durable over the life cycle(s) of the specific building(s) being constructed; it shall also be properly shown to be sufficiently robust to withstand normal use and abuse on site and, when correctly detailed, to deal more than adequately with the forces resulting from differential and/or relative settlement of construction over the same building life cycle(s).

5. Radon Soil Gas Control System (Ireland)

Radon Soil Gas Control System:

A measure designed to control the natural movement of radon soil gas (incl. Rn-222, Rn-220, RnD) in the ground under a building.

- 5.1 The **Radon Soil Gas Control System** on this project shall be the **Easi-Sump and Easi-Sump Cap-Link Assembly** approved for use in Ireland by NSAI Agrément. The relevant NSAI Agrément Certificate shall be circulated to those organisations and individuals concerned with the installation and site technical control of this Assembly.
- 5.2 The **Easi-Sump and Easi-Sump Cap-Link Assembly** (NSAI Agrément Certificate No. 09/0328 – Detail Sheet 1) is supplied by Necoflex Radon Control Systems of Clonshaugh, Dublin 17, Ireland; The **Easi-Sump and Easi-Sump Cap-Link Assembly** shall be installed as shown on Drawing(s) No(s). _____
- 5.3 The Radon Soil Gas Control System shall be installed in strict accordance with the principles of detailing and layout shown in NSAI Agrément Certificate No. 09/0328 – Detail Sheet 1, and with the project specific design and construction details and layout(s) shown on Drawing(s) No(s). _____.