

Practical Approach to Dose Assessments Resulting from Building Materials

Bernd Hoffmann, **Karin Wichterey**

Bundesamt für Strahlenschutz, Köpenicker Allee 120-130, 10318 Berlin, Germany

Telephone: +49-3018-333 4249, fax +49-3018-333 4105, e-mail: kwichterey@bfs.de

Abstract

According to the current European Basic Safety Standards the external exposure to gamma radiation emitted by building materials indoor should be no more than the reference level of 1 Millisievert per year in addition to the natural background. An activity concentration index considering three radionuclides has to be calculated and serves as a conservative screening tool for identifying possibly elevated exposures. Additional factors like thickness, density, type of building and intended use have to be taken into account to calculate the real dose resulting from the building material.

To keep these “weak” factors practicable and simple to apply, especially for licensing of building materials and to ensure free marketing within the European Union member states, harmonized conditions are necessary. Based on the European Construction Products Regulation the European Committee for Standardization has the mandate to establish harmonized standards, e.g. for marking, measuring guidelines etc. They have to find a way for dose modelling as well and recommend this in a Technical Report.

The Federal Office for Radiation Protection is involved in related working groups to agree on such harmonized standards and made some practical suggestions to use physical properties for a graded approach to be easy compared with the dose reference level.
