

ASSESSMENT OF THE RADIATION IN BUILDINGS IN POINT OF THE NEW HUNGARIAN LEGISLATION

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The Government Decree 487/2015 came into effect on the first of January 2016, which contains lots of changes in the field of radiation protection in Hungary. Some of these changes can be originated from the implementation of the new EU BSS (2013/59/EURATOM Directive). Regarding to the above referred Decree a uniform indoor radon reference level (300 Bq/m³) was settled for dwellings, workplaces and buildings with public access. Furthermore a reference level (1 mSv/y) was settled for the external exposure from gamma radiation emitted by building materials in addition to outdoor external exposure.

Radiohygiene examinations were carried out by the NRDRR in 570 buildings between 1995 and 2015. Gamma dose rate measurements were carried out in 558 buildings and radon measurements were done in 516 buildings. According to our results the average indoor gamma dose rate was 154 nSv/h and the minimum and maximum values were 58 and 424 nSv/h respectively. The average background gamma radiation was 103 nSv/h based on 361 measurements. We have detailed information about 189 buildings. We analysed the results of this group in deeply. In 121 buildings slag was built in. The highest gamma dose rate value (980 nSv/h) was also measured in a slag-built-in house.

The indoor radon concentration was measured in 415 buildings for more than 1 year period. Using these results the calculated average radon concentration was 108 Bq/m³. The highest average value was 781 Bq/m³. The radon level was above the reference level (300 Bq/m³) in 6% of the houses.