

URANOS simulation materials

List of materials used in URANOS for the simulation of neutron response to the urban test site (Fig. 8):

Material	Density	Description
Air	1.2 kg/m ³	78 % N ₂ , 21 % O ₂ , 1 % Ar
Aluminum	2.66 g/cm ³	
Asphalt	2.58 g/cm ³	14 % H, 50 % O, 11 % C, 25 % Si
Building		filled with air, 0.5 m concrete wall
Concrete	2.0 g/cm ³	50 % stones, 10 % water
Gas pipe		filled with air, 5 mm aluminum wall
Gras	< 135 g/m ²	variation of plants, 5–15 cm height
Iron	7.87 g/cm ³	
Plants	2.2 kg/m ³	14 % H, 72 % O, 14 % C, air
Sand		like soil with 5 % moisture
Soil	> 1.43 g/cm ³	50 % stones, 0–50 % water
Stones	1.43 g/cm ³	75 % SiO ₂ , 25 % Al ₂ O ₃
Tar		like asphalt pavement
Tartan	0.3 kg/m ³	variation of plant material
Trees	< 6 kg/m ²	variation of plants, 4–20 m height
Water	1.0 g/cm ³	H ₂ O
Wood	0.5 kg/m ³	variation of plants