

MicroShield 7.02
Dominion (07-MSD-7.02-1318)

Date	By	Checked

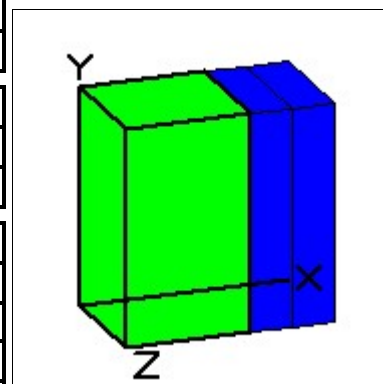
Filename	Run Date	Run Time	Duration
ESIS_D6.MS7	August 11, 2020	4:59:33 PM	00:00:00

Project Info	
Case Title	Example 3-4
Description	ESIS Problem 2 - Dose Point D6 - Concrete Buildup
Geometry	13 - Rectangular Volume

Source Dimensions	
Length	273.0 cm (8 ft 11.5 in)
Width	273.0 cm (8 ft 11.5 in)
Height	479.9 cm (15 ft 8.9 in)

Dose Points			
A	X	Y	Z
#1	456.5 cm (14 ft 11.7 in)	240.0 cm (7 ft 10.5 in)	136.5 cm (4 ft 5.7 in)

Shields			
Shield N	Dimension	Material	Density
Source	3.58e+07 cm ³	Water	1
Shield 1	2.54 cm	Iron	7.8
Shield 2	89.56 cm	Air	0.00129
Shield 3	91.4 cm	Concrete	2.4
Air Gap		Air	0.00122



Source Input: Grouping Method - User Defined Energies				
Group #	Energy (MeV)	Activity (Photons/sec)	Volume Source Photons/sec/cm ³	% Energy Activity
1	0.4	1.4307e+014	4.0000e+006	6.415%
2	0.8	2.5037e+014	7.0000e+006	22.451%
3	1.3	1.0015e+014	2.8000e+006	14.593%
4	1.7	2.9329e+014	8.2000e+006	55.887%
5	2.2	1.4307e+012	4.0000e+004	0.353%
6	2.5	1.0730e+012	3.0000e+004	0.301%
7	3.5	4.2920e+008	1.2000e+001	0.000%

Buildup: The material reference is Shield 3	
Integration Parameters	
X Direction	16
Y Direction	16
Z Direction	16

Results			
		Fluence Rate	Fluence Rate
		Exposure Rate	Exposure Rate

Energy (MeV)	Activity (Photons/sec)	MeV/cm²/sec No Buildup	MeV/cm²/sec With Buildup	mR/hr No Buildup	mR/hr With Buildup
0.4	1.431e+14	3.705e-05	9.430e-03	7.219e-08	1.837e-05
0.8	2.504e+14	8.947e-02	6.110e+00	1.702e-04	1.162e-02
1.3	1.001e+14	3.250e+00	9.214e+01	5.673e-03	1.608e-01
1.7	2.933e+14	8.841e+01	1.657e+03	1.436e-01	2.692e+00
2.2	1.431e+12	2.951e+00	3.903e+01	4.427e-03	5.855e-02
2.5	1.073e+12	5.300e+00	5.966e+01	7.629e-03	8.586e-02
3.5	4.292e+08	1.648e-02	1.268e-01	2.130e-05	1.639e-04
Totals	7.894e+14	1.000e+02	1.855e+03	1.615e-01	3.009e+00