

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

Date	By	Checked

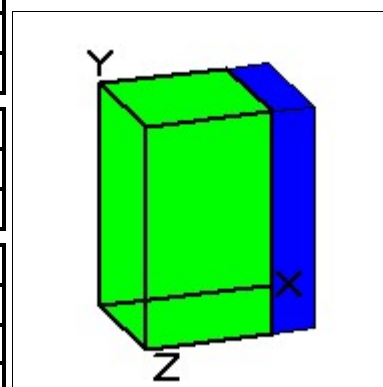
Filename	Run Date	Run Time	Duration
ESIS_D5.MS7	August 11, 2020	4:59:05 PM	00:00:00

Project Info	
Case Title	Example 3-3
Description	ESIS Problem 2 - Dose Point D5 - Steel 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	365.1 cm (11 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
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 1	
Integration Parameters	
X Direction	16
Y Direction	16
Z Direction	16

Results					
Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm ² /sec	Fluence Rate MeV/cm ² /sec	Exposure Rate mR/hr	Exposure Rate mR/hr

		No Buildup	With Buildup	No Buildup	With Buildup
0.4	1.431e+14	3.371e+05	1.674e+06	6.568e+02	3.262e+03
0.8	2.504e+14	3.064e+06	1.205e+07	5.827e+03	2.292e+04
1.3	1.001e+14	3.661e+06	1.141e+07	6.390e+03	1.991e+04
1.7	2.933e+14	1.907e+07	5.285e+07	3.097e+04	8.585e+04
2.2	1.431e+12	1.573e+05	3.952e+05	2.359e+02	5.930e+02
2.5	1.073e+12	1.515e+05	3.631e+05	2.180e+02	5.226e+02
3.5	4.292e+08	1.132e+02	2.409e+02	1.463e-01	3.113e-01
Totals	7.894e+14	2.644e+07	7.874e+07	4.430e+04	1.331e+05