

Beta Particle Standards—Type MF2

This is a “scatterless” configuration in which the activity is applied as a 0.12” (3 mm) spot centered between two laminated 0.9 mg/cm² aluminized Mylar foils. The source is supplied in a removable aluminum holder. In the holder the source has an overall diameter of 1” (25.4 mm) and a thickness of 0.125” (3.18 mm). Out of the holder the source is 0.937” (23.8 mm) in diameter with a thickness of approximately 0.030” (0.76 mm).

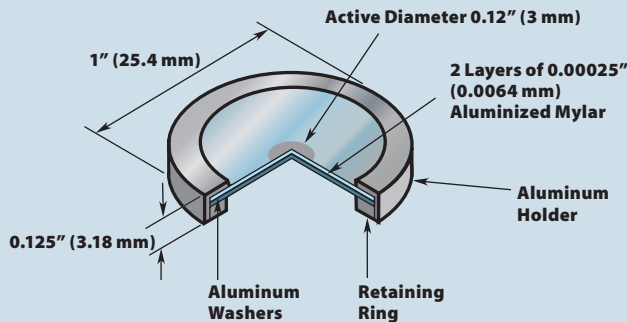
This configuration is most useful for the precise determination of G.M. and proportional counter efficiencies, and as an educational tool for the verification of the inverse square law, as well as demonstrating back-scatter phenomena.

Additional beta sources can be found on pages 55–65 including disk standards suitable for use with low background counting systems and 3.94” x 3.94” (100 mm x 100 mm) distributed beta sources for instrument calibration and dose assessments.



Figure 43-A: Type MF-2 Disk

A1207



Overall Dimensions

Overall Diameter	Active Diameter	Height
1”	0.12”	0.125”
25.4 mm	3 mm	3.18 mm

Nature of Active Deposit	Available Activities
Evaporated Salts on Mylar	5 nCi -100 nCi (185 Bq - 3.7 kBq)

Exceptions
Bi-210: 10 nCi - 100 nCi (370 Bq - 3.7 kBq)
Sr-90: 2.5 nCi - 100 nCi (92.5 Bq - 3.7 kBq)

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Catalog Number	Nuclide	Half-Life	Substrate	Significant Beta Energies (E _{max} keV)	Window
BF-014-MF2	Carbon-14	5730 y	Polymeric Membrane	156	0.9 mg/cm ² Aluminized Mylar
BF-137-MF2	Cesium-137	30.17 y	Stainless Steel	1175	0.9 mg/cm ² Aluminized Mylar
BF-036-MF2	Chlorine-36	3.01 x 10 ⁵ y	Stainless Steel	1142	0.9 mg/cm ² Aluminized Mylar
BF-060-MF2	Cobalt-60	5.272 y	Stainless Steel	1491	0.9 mg/cm ² Aluminized Mylar
BF-068-MF2	Germanium-68 ⁽¹⁾	270.8 d	Stainless Steel	2921 (β ⁺)	0.9 mg/cm ² Aluminized Mylar
BF-147-MF2	Promethium-147	2.6234 y	Stainless Steel	225	0.9 mg/cm ² Aluminized Mylar
BF-106-MF2	Ruthenium-106/Rhodium-106	1.020 y	Stainless Steel	39, 3540	0.9 mg/cm ² Aluminized Mylar
BF-022-MF2	Sodium-22	950.8 d	Stainless Steel	2842 (β ⁺)	0.9 mg/cm ² Aluminized Mylar
BF-090-MF2	Strontium-90/Yttrium-90 ⁽²⁾	28.5 y	Stainless Steel	546, 2282	0.9 mg/cm ² Aluminized Mylar
BF-099-MF2	Technetium-99	2.13 x 10 ⁵ y	Stainless Steel	294	0.9 mg/cm ² Aluminized Mylar
BF-204-MF2	Thallium-204	3.78 y	Stainless Steel	763	0.9 mg/cm ² Aluminized Mylar