

Ytterbium Sources

169

Product Code: YB9R1

Source

Active Dia:

1.2 mm

Active Height:

1.7 mm

Nominal Activity:

10 Ci (370 GBq)

FOB Sydney

Product Code: YB9R05

Active Dia:

0.5 mm

Active Height:

0.6 mm

Nominal Activity:

1 Ci (37 GBq)

FOB Sydney

Ytterbium-169 radiation source is very practical for non-destructive testing (NDT) such as thin steel piping or structural components of plant systems that are composed of steel less than 15 mm in thickness.



Characteristics

Optimum Working Thickness:

- Steel - 2.5 to 15 mm
- Light Alloys - 7.5 to 45 mm
- Other materials - 0.02 to 0.12 g/mm²

Half life: 32.0 days

Principal gamma Energies: 0.008 to 0.308 MeV

Output at 1 meter for an equivalent activity of 37 GBq (1 Curie)

Exposure rate: 0.125 R/h

Air kerma rate: 0.303 μ Gy/s

Supplied from: Sydney, Australia

Ytterbium-169 spectrum - Electromagnetic transitions

Photon energy MeV	Transition probability
0.049 to 0.059	180% (Thulium K X-rays)
0.063	43.9%
0.094	2.6%
0.110	17.6%
0.118	1.9%
0.131	11.2%
0.177	21.5%
0.198	35.1%
0.261	1.7%
0.308	10.8%
Others	Low intensity