

# Curium-244

## γ and Primary X-ray Sources

Curium-244 incorporated in a ceramic enamel, sealed in a welded monel capsule with brazed beryllium window; the active component is recessed into a stainless steel support with tungsten alloy backing.

Nominal activity*		Capsule	Typical photon output in photons/sec per steradian*	Code
GBq	mCi		18keV Pu LX-rays	
0.37	10	X.130/7	$0.8 \times 10^6$	CLC.13074
1.11	30		$2.4 \times 10^6$	CLC.13075
3.7	100		$7.8 \times 10^6$	CLC.13076

\*Tolerance +50% -10%

Content activity nominal -0, +25%

**Recommended working life:** 10 years

Nominal activity*		Capsule	Typical photon output in photons/sec per steradian*	Code
GBq	mCi		18keV Pu LX-rays	
0.37	10	X.131/4	$0.8 \times 10^6$	CLC.13144
1.11	30		$2.4 \times 10^6$	CLC.13145
3.7	100		$7.8 \times 10^6$	CLC.13146
7.4	200		$15.0 \times 10^6$	CLC.13147

\*Tolerance ±10%

Content activity nominal -0, +25%

**Recommended working life:** 10 years

### Quality Control

Wipe test A

Bubble test B

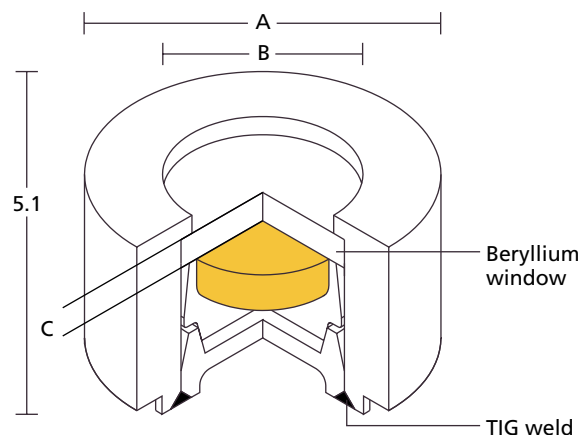
Immersion test L

Photon emission checked on a Si(Li) detector. Impurity levels checked using a Ge(Li) detector.

### Neutron emission

All Curium-244 sources emit  $\sim 1.35 \times 10^5$  n/sec/Ci due to spontaneous fission and ( $\alpha$ ,n) reactions with the low atomic number elements (for example Si, Al, O) in the active material.

## X.130/7, 131/4



## Capsule dimensions and safety performance

Capsule	Overall diam. 'A' mm	Active diam. 'B' mm	Window thickness 'C' mm	Safety performance testing		Model no.
				ISO classification	IAEA special form	
X.130/7	8.0	4.2	0.95-1.05	C64344	GB/339/S-85	CLCL
X.131/4	10.8	7.2	0.95-1.05	C64344	GB/144/S-85	CLCL

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Nominal activity*		Capsule	Typical photon output in photons/sec per steradian* 18keV Pu LX-rays	Code
GBq	mCi			
18.5	500	X.135/2	33.0 x 10 <sup>6</sup>	CLC.13528
37.0	1000		67.0 x 10 <sup>6</sup>	CLC.13529

\*Tolerance ±10%  
Content activity nominal -0, +25%

**Recommended working life:** 10 years

### Quality Control

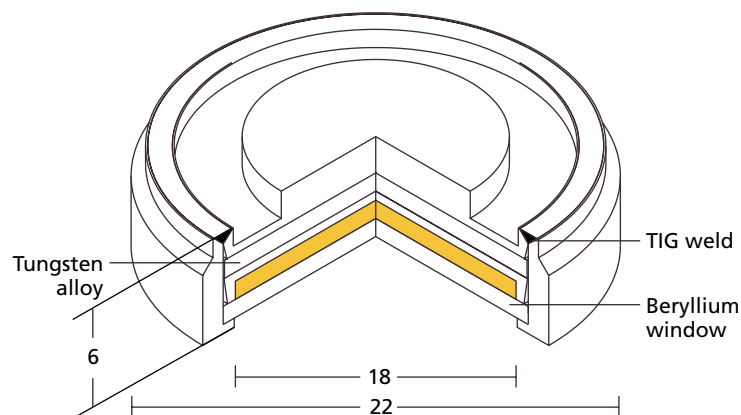
Wipe test A  
Bubble test B  
Immersion test L

Photon emission checked on a Si(Li) detector. Impurity levels checked using a Ge(Li) detector.

### Neutron emission

All Curium-244 sources emit ~1.35 x 10<sup>5</sup> n/sec/Ci due to spontaneous fission and (α,n) reactions with the low atomic number elements (for example Si, Al, O) in the active material.

## X.135/2



## Safety performance testing

ISO classification	IAEA special form	Model number
C64344	GB/143/S-85	CLC, D1