

## Black Spot

This has the full complement of filters together with the indium foil. It is recommended for use in situations where all types of radiations are likely to be encountered and where there is risk of a criticality accident.

Reference Number	Description	Pack Quantity
30BS/MK1	Mark 1 Blue Holder	50
R30BS/MK1	Mark 1 Red Holder	50
30BS/MK2	Mark 2 Blue Holder	50
R30BS/MK2	Mark 2 Red Holder	50

## White Spot

This has the full complement of filters but not the indium foil. It is recommended for use where all types of radiation may be encountered but where there is no risk of a criticality accident from exposure to neutrons.

Reference Number	Description	Pack Quantity
30WS/MK1	Mark 1 Blue Holder	50
R30WS/MK1	Mark 1 Red Holder	50
30WS/MK2	Mark 2 Blue Holder	50
R30WS/MK2	Mark 2 Red Holder	50

## Green Spot

This has all the filters except the cadmium/lead filter and the indium foil. It may be used where there is no routine exposure to thermal neutrons nor any risk of a criticality accident.

Reference Number	Description	Pack Quantity
30GS/MK1	Mark 1 Blue Holder	50
R30GS/MK1	Mark 1 Red Holder	50
30GS/MK2	Mark 2 Blue Holder	50
R30GS/MK2	Mark 2 Red Holder	50



# Radiological Dose Assessment Film Holders



Wood Hall, Church Lane, Great Holland,  
Frinton-on-Sea, Essex C013 0JS

Tel: +44 (0) 1255 851 555  
Fax: +44 (0) 1255 851 051

Email: [enquiries@loxford-equipment.co.uk](mailto:enquiries@loxford-equipment.co.uk)  
[www.loxford-equipment.co.uk](http://www.loxford-equipment.co.uk)



[www.loxford-equipment.co.uk](http://www.loxford-equipment.co.uk)

## Products

The film holders, available in two versions Mark 1 and Mark 2, were developed by the National Radiological Protection Board (NRPB), now Health Protection Agency (HPA), and are produced and marketed by Loxford Equipment Company Limited.

The design of the two types of holder is based on a six filter system which satisfies the requirement that the filters are large enough to minimise edge effects, as well as leakage, and that there are a sufficient number of filters to enable a detailed and accurate dose assessment to be made.

The Mark 1 and Mark 2 holders have the same filters, the main difference being in the fastening arrangement. Both are intended for use with Kodak Type 2 Monitoring Film or a similar product and both are available in blue or red.



## Six Filters

- 1** An open window which allows all incident radiation that can penetrate the film wrapping to interact with the film. This window allows for the film serial number to be displayed.
- 2** A thin plastic filter which attenuates beta radiation but passes all other radiations.
- 3** A thick plastic filter which passes all but the lowest energy photon radiation and absorbs all but the highest energy beta radiation.
- 4** A dural filter which progressively absorbs photon radiation at energies below 65 KeV as well as beta radiation.
- 5** A tin/lead filter of a thickness which allows energy independent dose response of the film over the photon energy range 75 KeV to 2MeV.



- 6** A cadmium/lead filter where the capture of neutrons by cadmium produces gamma rays which blacken the film thus enabling assessment of exposure to neutrons.

In addition a strip of indium foil may be housed in a recess in the badge. This foil becomes radioactive after exposure to neutrons and can be used to identify exposed personnel in the event of a criticality accident.

