

## X-Lite Radiation/Light Field QA Tool

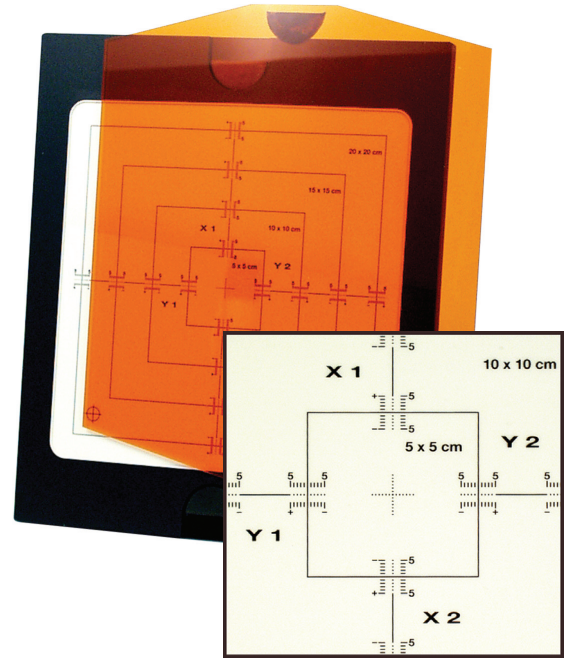
Correct alignment of the light field with the radiation field is vital for reliable treatment setup. Using the X-Lite, the check is performed with more convenience than ever, using no film, no cables and no connectors.

The X-Lite is a fluorescent plate for visualizing the accelerator radiation field directly on the treatment table. The plate is activated by ionizing radiation, producing a green fluorescence which is clearly visible and lasts for a few minutes, after the radiation ceases, to allow sufficient time to examine the coincidence of radiation field to the collimated light field. The 23 x 23 cm active area is permanently marked with a 5 x 5, 10 x 10, 15 x 15 and 20 x 20 field scales in centimeters.

A protective orange filter prevents undesired activation of the phosphor by the light field from the gantry head or by ambient lighting. Irradiation photons and electrons penetrate the filter to activate the phosphor within the plate.

Using the X-Lite is easy, and alignment checks can become a part of the daily QA routine. With the filter in place, the light field is collimated to the scale on the X-Lite. Any buildup material is added on top of the plate and the exposure is made. Upon irradiation, the light filter is removed and the fluorescence of the X-Lite is checked for radiation field alignment. It is not necessary to wait for the afterglow to fade between irradiations, since the contrast is high as long as the following dose is the same or higher.

The radiation beam should coincide with the light field to within  $\pm 2$  mm on each side at the normal SSD.



### Features

- ▶ Checks light field and radiation field coincidence
- ▶ Instant results without the use of film
- ▶ Saves time

### Specifications

|                              |                                                                                                                                                      |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Energy range .....           | >1 MeV                                                                                                                                               |
| Radiation type .....         | Photons, electrons                                                                                                                                   |
| Maximum dose .....           | 600 R per exposure                                                                                                                                   |
| Active area .....            | 23 x 23 cm                                                                                                                                           |
| Field scale .....            | 5 x 5, 10 x 10, 15 x 15, 20 x 20 cm                                                                                                                  |
| Deviation scale .....        | $\pm 5$ mm in steps of 1 mm from each field scale                                                                                                    |
| Scale accuracy .....         | $\pm 0.1$ mm                                                                                                                                         |
| Fluorescence .....           | Green (max 530 nm)                                                                                                                                   |
| Fluorescence duration .....  | Readable 2–4 minutes after irradiation                                                                                                               |
| Fluorescence intensity ..... | 240 mcd/m <sup>2</sup> , 1 min after irradiation<br>150 mcd/m <sup>2</sup> , 2 min after irradiation (6 MV at 100 cm SSD, 200 R dose, 13 mm buildup) |
| Daylight filter .....        | Orange, removable                                                                                                                                    |
| Materials .....              | Acrylic, polycarbonate                                                                                                                               |
| Operating temperature .....  | 15–45°C                                                                                                                                              |
| Dimensions .....             | 32 x 27.6 x 1.42 cm (12.6 x 10.9 x 0.55 in)                                                                                                          |
| Weight .....                 | 1.4 kg (3.1 lbs)                                                                                                                                     |

