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【440】 Production and quality assurance of scintillating fibre mats for the LHCb tracker upgrade

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The LHCb detector will be upgraded during the second long shutdown of the LHC. The current tracking sub-systems will be replaced by the Upstream and the Scintillating Fibre (SciFi) trackers, composed of high-granularity silicon micro-strip planes and scintillating fibres read out by silicon photomultipliers, respectively. The SciFi tracker consists of three stations each composed of four detection layers. Each detection layer is composed of 12 modules which are themselves composed of 8 fibre mattresses (mats). This contribution presents a description of the techniques developed to produce 2.5 m-long mats consisting of 6 layers of 250 μm diameter fibres and the associated quality assurance tests.

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