

ABSTRACT

SURFACE EMITTER AND INTERNALLY ILLUMINATED SIGN  
INCORPORATING THE SAME

To provide a novel surface emitter incorporating an LED element improved in waterproofness or other practical functionality to enable the surface emitter to be used not only for a sign but also for other various applications, in appearance and in workability, and an internally illuminated sign incorporating the same surface emitter. A surface emitter 1 according to the present invention has a flexible substrate 11 having electric wiring 12, a plurality of LED elements 13 disposed substantially regularly on the substrate 11, and a top film 14 disposed on the LED elements 13 in a stretched manner. When the top film 14 is disposed on the substrate 11 in a stretched manner, the top film 14 is applied to the substrate 11 to come into close contact with projections and depressions formed by the LED elements 13. More specifically, a vacuum pressure bonding process is used in which a space between the LED elements 13 and the top film 14 is evacuated, and the top film 14 is heated and pressure-bonded to the surface of the LED elements 13.

Fig. 1