Hamarikyu Asahi Hall is considered one of the world's best acoustic halls, as recognized by the Acoustical Society of America in 1996. The Asahi Shimbun visited several concert halls before its construction in order to build the best hall in Ginza. The classical shoebox shape was chosen as the final design, because this particular style was found to best correspond to the needs of the audience and also to ensure good acoustics.

Leo Beranek (1914–2016), a renowned American acoustics expert, visited the Hamarikyu Asahi Hall in the 1990s, while working as an independent acoustical consultant in Japan. Beranek emphasized how important it was to pay attention to the acoustic sound quality when building a music hall, and Asahi Shimbun achieved this vision of excellence.

The materials used, the measurements of the area, and the stage depth were all taken into consideration for the construction of the hall. For instance, the walls below the balcony are covered by a marble-like material with a corrugated surface, while the rest of the walls and ceilings are composed of either gypsum board or wood. The vertical corrugations of the marble-like wall were added to balance the high-frequency sound waves and reflect them back into the reverberant sound field. Performers have also expressed how stage acoustics and sound are uniform in quality throughout the hall. As a result, the audience can experience beautiful sound quality wherever they sit.