

## Hagi Glass Studio

Located on the quiet hillside of Mt Kasayama, Hagi Glass Studio is a fifteen minute drive from the centre of Hagi, a city in Yamaguchi Prefecture, Japan. Hagi appeared prominently in the history of Japan during the middle of the nineteenth century when it produced many political and industrial leaders who contributed to the modernisation of the country. Geographically, this place belongs to the 'San-in' region (literally translated as 'behind mountains') and is remote from large cities like Tokyo and Osaka. In January 2020, I took a seven hour journey from Osaka, including two bullet trains and several idyllic trips on single-track train lines, to visit the Hagi Glass Studio.

Hagi is far more famous for its ceramics heritage than for glass. There are numerous potteries in the city, and the Hagi Uragami Museum, in particular, has a mind-blowing collection of both traditional and contemporary ceramics. Originally established by Korean potters in the early seventeenth century, Hagi Ware is characterised by its neutral earthy colour and thick, crazed glaze. The glaze crazing, or crackle, is caused by using deliberately incompatible clay body and glaze. Readers who work with glass must understand the physics of this very well. Knowing glass, it might be difficult to believe that glassware could also sustain progressive cracks, a quality for which Hagi Glass is noted.

This crazing glassware consists of three layers. Soft glass (CoE105) is sandwiched between two layers of hard glass (CoE40). The glassblower takes a gather of hard glass from the furnace, blows the first bubble and then rolls it on a tray of soft glass frit. An additional outer gather of hard glass is then taken, before blowing the bubble bigger. The technique and tools are no different to those of ordinary glassblowing, apart from the fact that the frit is totally incompatible with the body glass. Soon, the middle layer starts crackling due to the large difference in coefficients of expansion. However, the outer glass layers remain intact. The finished vessel will keep cracking for three years, slowly changing its look from transparent to flossy. The process can be speeded up by pouring in hot water or microwaving it. No fear, this glass is heat resistant!

Mr Kotaro Fujita, the managing director, is a materials engineer, specialising in industrial ceramics. Reflecting this professional background, he makes glass materials from locally sourced basaltic andesite, which is rich in quartz. There are some historical records showing that glass was made in Hagi in the nineteenth century, but the technique had been forgotten until Fujita's research rediscovered it. Since then, he has continued developing his own glass recipes. When he encountered the crazing glass technique in Hungary, he decided to adapt it for use with Hagi glass.

Mr Fujita claimed that making their own glass from raw materials is at the core of Hagi Glass production. Their glass reflects both the geological and cultural features of the place, and is therefore inimitable. "Can you really feel creative without mixing your own colours?", he forthrightly pointed out when I met him. "Many studios do not think enough about local and individual expertise and melt ready-made cullets brought from elsewhere", he added. As the corporate manager, he also exhorts young glassblowers to have a very realistic business mind, giving them the specific numbers of cups that have to be made to keep the studio going. However, he never assigns quotas, because this imposed motivation may not lead to the highest quality work. He further notes, "Glass lasts for thousands of years. It would be too embarrassing if future critics found the glass of this period to be insignificant".

On the train back, I remembered the TV programme in which I first saw Hagi glass as a child. I had been intrigued by the developing cracks that looked like candy floss being gathered. Even though this trip was my first visit, I felt somewhat nostalgic, remembering my first fascination with glass. Seeing it being made at first hand, I became aware of the innovative and honest toil behind it all. I bought a tea bowl as a souvenir. It will be my companion, as we both grow older together over the next three years and beyond.

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