

Methods for quality control of double and triple glazed insulating glass units

Today's glass products carry a wide range of elements enhancing their properties. One main property is the energy efficiency in both heated and cooled buildings. The energy properties of today's glass products can be enhanced with various methods, such as inserting a medium like argon or krypton in between. The challenges are confirming the correct filling degree of the insulating gases and possible gas escapes. Thus, manufacturers aim to ensure the maximum possible content of argon after the gas filling – typically 95% and over, since product liability for the insulating glass and window suppliers can last several years after the initial delivery of the product.

The actual argon measurement can be conducted either with an invasive or non-invasive method. The invasive method penetrates through the sealing of the insulating glass unit, meaning that the IGU cannot be delivered to the customer or retested. The non-invasive method, on the other hand, allows measuring the gas content without breaking the IGU. The most recent innovations within the non-invasive method also allow an online testing of complicated structures, such as energy efficient triple glazed units. When employing this technology, the gas content information can be derived from every unit produced. This brings the level of quality assurance of high performing glazing units at par with advanced product expectations.