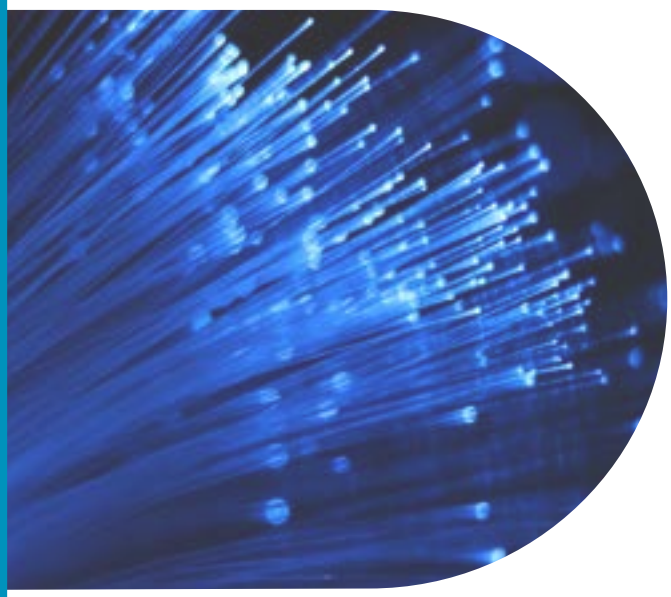
Platinum is used in the fabrication of optical fibres



IN A GLASS OF ITS OWN

Platinum is used extensively to make glass. Today, it helps to make many products that are integral to our lives, from smart phone screens to fibreglass for wind turbines

Humans have been manufacturing glass since around 3,500 BC. Ancient civilisations used glass for making weapons and decorative objects.

Since then, glass-making processes have evolved into the high-tech industry that we know today, with multiple glass types and end uses. Demand from the glass industry currently accounts for c. 11 per cent of total annual industrial demand for platinum.

The crucial role of platinum

The exact composition of glass can vary depending upon the application, although all glass-making processes involve the melting of raw materials at extremely high temperatures, up to 1700°C.

Platinum, with its melting point of 1768°C and remarkable resistance to corrosion at high temperatures, is one of only a few materials that can withstand this melting process.

Due to this, it is used in the linings of vessels that contain, channel and form molten glass. It is also used to coat equipment such as ceramic stirrers and bowls that are used to mix the molten glass to ensure a consistent composition.

What is more, platinum is stable or 'inert'. This means that it has a very low tendency to react with other substances. In high-quality glass production this is crucial, as it prevents cross-contamination during the manufacturing process, therefore minimising impurities and defects.

This is especially important for products like optical glass and liquid crystal display (LCD) screens, which are used in electronics such as smart phones, computers and flat-screen TVs.

Platinum contributes to the efficiency and cost-effectiveness of the glass-making industry. It is not consumed during production and can be re-used multiple times. It also extends equipment life, reduces downtime for maintenance and can lower a producer's total energy requirements.

DID YOU KNOW?

If all the smart phones sold in 2017 were laid out end-to-end they would wrap around the earth's circumference 4.5 times.

Sustainability as a growth driver

Increasingly, glass is helping to provide sustainable solutions in the automotive, construction and renewable energy sectors that are reducing the impact of climate change.

For example, usage of glass fibre-based materials is rising in the automotive industry. This strong, but lightweight, material is being adopted to reduce vehicle weight, helping automakers to meet fuel economy targets and tightening emissions standards across the world.

Fibreglass is also used in construction as an insulating material to reduce heat loss. The renewable energy sector relies on high-quality glass components for photo voltaic (solar) panels and high-quality fibreglass to make wind turbines.

Platinum demand from the glass sector has averaged c. 200 koz per annum over the last five years. As a result of renewable energy trends, glass-manufacturing capacity is forecast to increase, driving growth in platinum demand.

Platinum is an in-demand industrial commodity in glass making and beyond, and the breadth of its applications continues to grow. It is increasingly being recognised as an effective investment asset, delivering demonstrable diversification benefits in a private portfolio or pension plan.

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