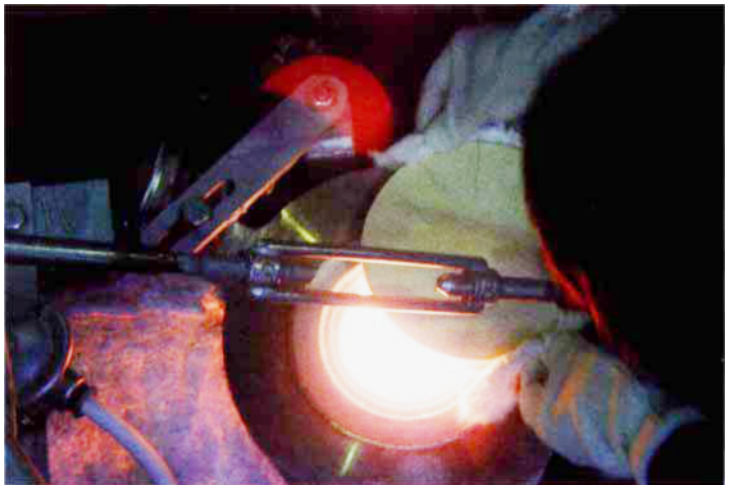

A view looking down into a Power Coatings™ chamber during initial heat-up. No glass is present in the chamber at this point; the glow is from the platinum coating. The chamber is running at about 1200°C and this temperature was achieved with power being applied only to the coating. No other heat source was required

Power Coatings™ systems, such as that used by Crystalex, Nový Bor, Czech Republic, is less than 0.2 per cent. This tightly-controlled delivery weight contributes towards the increased quality of the product and to a reduction in the rejection rate by ensuring that the correct weight of glass is consistently transferred to each mould, thus facilitating smooth, efficient operation of the glass forming machines.

There are now four standard designs of feeder chambers that use Power Coatings™. The chambers have volumes ranging from 8000 to 24,000 cm^3 and are able to deliver glass at temperatures up to 1400°C. These chambers are suitable for dealing with the existing range of daily pull rates and gob weight delivery requirements for the vast majority of current indirectly and directly heated feeder systems.

Conclusion

Glass technology is one of the oldest manufacturing technologies. While using almost the same basic constituents now, as in the earliest times (for ornaments and utensils) the technology of production has advanced to the stage where manufacturers are able to produce perfect flat glass, lenses and display screens. Modern developments in the materials of production have contributed to this advance, and with the efficiency and accuracy available with Power Coatings™ technology, even more predictable outcomes are possible.

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The Author

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Electrically Induced Phosphorescence

When the voltage applied to a poly(*para*-phenylene) ladder-type polymer being tested for LED use was switched off, a team of researchers in Germany and Austria (J. M. Lupton, A. Pogantsch, T. Piok, E. J. W. List, S. Patil and U. Scherf, *Phys. Rev. Lett.*, 2002, 89, (16), 167401) saw a long-lasting pink phosphorescent glow (λ ~ 600 nm) instead of the expected, but shorter lasting, blue-green fluorescence (λ ~ 450 nm). Very low concentrations (~ 80 ppm) of Pd atoms left over from the process catalyst and bound to the polymer backbone are thought to be responsible for this new effect.

Large numbers of dark long-lived triplet states generated in the polymer by the electrical excitation may diffuse thermally through the polymer film until they encounter a Pd site where they decay as phosphorescence.