

# 2K machine dazzles at Lumotech

*Uitenhage company succeeds with dual injection challenge to produce auto tail light lenses*

LUMOTECH of Uitenhage has gone operational with what must be one of the most sophisticated injection moulding machines in South Africa at present.

The Engel 'Combi M' is a 2K (dual material) machine for the sequential injection moulding of two colours in a single machine cycle. The system is being used for the production of tail lights for commercial vehicles in cooperation with one of SA's top automotive OEMs.

These are comparatively large mouldings with dimensions of about 40x40cms.

The 700-ton injection system operates a two two-part mould, each of which weighs about five tons, first injecting the clear PMMA (acrylic) and then, after the 180° swing, injecting the second shot of red material (also acrylic). The machine has two moving platens, and a central rotating platen.

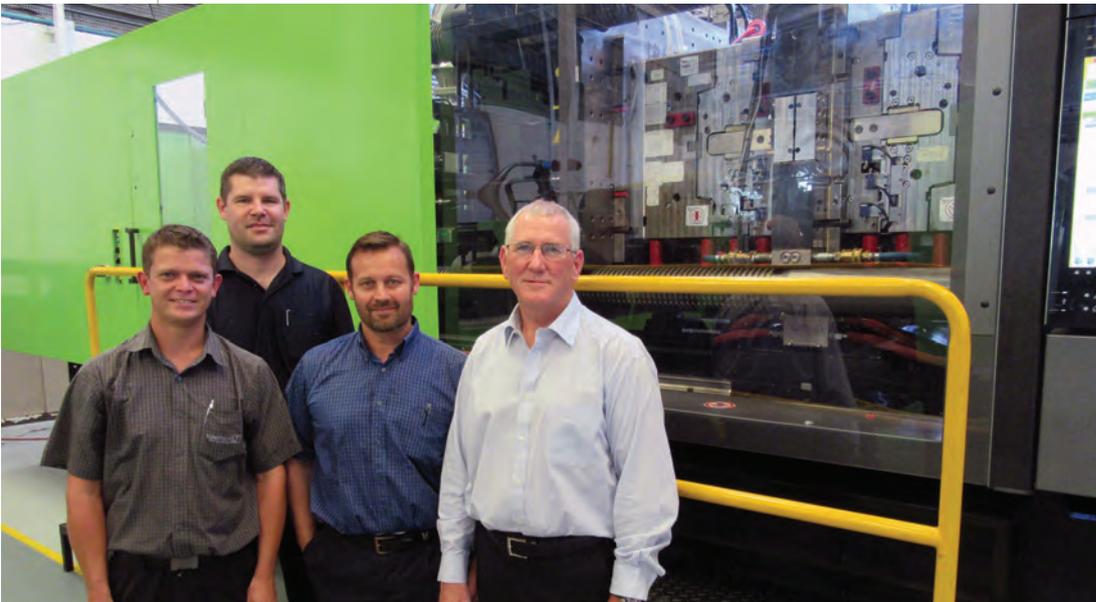
The incredibly precise separation of the materials, yet with the two sections forming

an integral part of the same moulding, is a significant technology feat.

Separate barrels of different sizes are used to prepare the material. Since the tail light moulding is overwhelmingly red, the red PMMA is injected via the larger 70mm barrel and the clear material through a 55mm barrel.

Lumotech's engineering team had researched the project thoroughly beforehand and first opted for a Japanese

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The Lumotech team involved in the high-tech project includes engineering manager Morné le Roux, purchasing manager Arno Taljaard, projects manager Werner Joubert and Wolfgang Ropertz, MD of the Uitenhage company, with the 700t Engel 'Combi M' machine. The machine produced just 500 parts in March 2015, which were then submitted to the automotive client; approval was received earlier this year and full production has just commenced

The 'Inglass' mould built by HRS of Italy in the open position, with the setter making adjustments. The mould swivels horizontally around a vertical axis, injecting the different colours separately but in a single cycle. Lumotech is running the machine at 60-sec cycles, although Engel has run the system even faster in Austria

The lining of conveyor belts for the transport of ores is a key application for LinaShield, with its extended performance life resulting in reduced downtime



## Perspex SA combats

*New TPU sheet from South African manufacturer*

CAST and extruded acrylic supplier, Perspex South Africa, have recently introduced LinaShield to their ever-expanding range of products. This thermoplastic polyurethane sheeting has been specifically designed for highly abrasive applications, such as wear linings, screens, belts and conveyors.

"LinaShield is being aimed particularly at the mining sector, but any application where high abrasion resistance is required, would suit the sheet," said Perspex director, Adrian Kemp.

LinaShield's defining feature is its ability to protect metal surfaces. For example, chutes, mills, hoppers, skips, and slurry channels are shielded

## Aberdare Group sold to Chinese cable manufacturer

ABERDARE Cables has been sold to a leading Chinese cable manufacturer for R1 232 billion in cash.

JSE listed Allied Electronics Corporation Limited's (Altron) wholly owned subsidiary, Power Technologies Proprietary Limited (Powertech), has entered into an agreement whereby it will dispose of a controlling equity stake in its shareholding in Aberdare Cables and Aberdare International will dispose of 100% of its shareholding in Aberdare Europe comprising its Spanish and Portuguese operations to Hengtong Optic – Electric Co Limited (Hengtong).

Listed on the Shanghai Stock Exchange, Hengtong is the fourth largest cable manufacturer in China and one of the largest cable manufacturers in the world. Hengtong's scale and expertise makes it a strong strategic partner able to support Aberdare Group's growth strategy through a process of technology innovation, product expansion, systems development and technical expertise.

Commenting on the announcement, Robert Venter, Chief Executive of Altron, said: "This is another positive step in the implementation of our strategy to identify committed equity partners best suited to support the needs and growth ambitions of our manufacturing businesses, an area of the group in which we have opted to reduce our exposure."

Aberdare Cables will also have access to Hengtong's vast operating experience and strong global balance sheet. In return, Aberdare Group offers an attractive platform for Hengtong to expand in South Africa, Africa and Europe.

"Altron is making good progress in reducing our exposure to certain manufacturing assets and using the proceeds to reduce the group's overall debt as well as allowing the Group to focus and grow in the Information Technology and Telecommunication markets. We will continue to seek opportunities that support the creation of a smaller, but far more agile group that has high growth potential," added Venter.

## MGMW moves to bigger premises

MGMW has recently moved to a new factory in Johannesburg. The move was motivated by the fact that the company needed bigger premises to expand and make work flow easier and more efficient.

The new factory – at Unit 17, Log Road, Roodekop in the south-east of the city – has 540m<sup>2</sup> under cover with an outside yard that is double the size of its previous premises.

MGMW's core business is the refurbishing, manufacturing and supply of barrels and screws for the plastics processing sector. The company has also invested in new equipment, including a 4m grinder and a 4m lathe. The larger factory will allow MGMW to import demo machinery for display to customers interested in recycling or injection moulding.



The '2K' tail light outer lens, injection moulded in red and clear PMMA, is a comparatively large part with flow paths exceeding 40cms. Lumotech also produces the metalized reflective housing of the tail light and assembles the units at its plant in Uitenhage. With the trend towards larger automotive lights as an integral design component of vehicles today, the project was a challenging undertaking for the Metair company

machine, but the system offered would have been far larger and even required lifting the roof of the plant in Uitenhage, which wasn't attractive. They then approached a top German injection machine supplier, but without success. They struck it lucky with Engel in Austria, but – again – were told the machine they sought was not available as standard. The result achieved, based on the data and drawings submitted by the Lumotech team, led by engineering manager Morné le Roux, is effectively a hybrid version of the Combi M series machines.

A similar scenario played out with the building of the mould, which is really the core of the system: few mould makers internationally have the ability to build 2K moulds, but HRS of Italy was ready for the challenge. As the moulds are attached to both of the moving platens as well as the central rotating platen, cooling water, pneumatic air and hydraulic fluid has to be supplied from below: the result is that the

mould's base manifold houses electrical, pneumatics, hydraulic fluid and chilled water connections, with the added requirement that all of these need to function uninterrupted while the mould goes through continuous 180° turns. It's fair to say that this is one of the most impressive moulds in use in Southern Africa.

The big machine arrived early last year and production commenced in March 2015, when just 500 parts were run. These were submitted to the automotive OEM ... and then there was silence. Lumotech has just recently got the green light to commence production and assembly of the components.

The tail light lenses were previously imported from Japan, so it's a notable shot in the arm for SA-based Lumotech, part of the Metair group, to be rivalling one of the global leaders in this area.

[www.lumotech.co.za](http://www.lumotech.co.za)

## abrasion with LinaShield

from harm when this TPU sheet is applied with bolts or adhesive.

The modification of an existing extruder, at Perspex manufacturing site in Neave, Port Elizabeth, initiated the development of this new thermoplastic polyurethane sheeting – with thicknesses ranging from 2mm to 10mm.

LinaShield not only provides protection for metal surfaces and outstanding resistance to abrasion, but also demonstrates excellent resistance to oils, greases and solvents, which are typically encountered in many sectors that operate heavy machinery.

Perspex South Africa has been a market leader in the supply of quality Cast Acrylic products for over 60 years, and their quality range of products include MI and UHI Extruded Acrylics, Styrenics (ABS/PST), PETG, HDPE, PP, PMMA/ABS and ACM.

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