Heye Multilevel Safety Concept

Willfried Seidensticker, product manager Hot End solutions at Heye is convinced that safety-related investments result in higher productivity. Result of these thoughts is the Heye multi-level safety concept. The Heye multi-level safety concept emphasises the need for perfect engineering throughout the plant, in addition to a well trained and educated workforce. Of course, the right equipment is a key factor. Equipment means intelligent processes and controls, the clean and clear design of the machines, the employment of useful tools and working instruments and the introduction of additional protection devices coupled with sophisticated workflows.

When considering safe equipment options for the Hot End, selection parameters are influenced by existing and potential legislative requirements, including those introduced by such organisations as GOST (Gosudarstvenny Standard) in Russia, OSHA (Occupational Safety and Health Administration) in the USA, CCC (China Compulsory Certification) in Asia and the EU’s European standards. Fillers are especially keen to encourage safety-related improvements at glass plants, in part to protect their own reputations. Higher safety standards are not only important to glassmakers and their employees, however, because potentially, every accident can lead to injuries, equipment damage and downtime.

TOTAL FORMING CONTROL
An important recent process control development from Heye International involves the monitoring of blank side loading positions, where the correct position of plunger positioners during gob loading is monitored, as well as the timely exit of the plunger immediately before opening the blanks and transferring the parison. Should the plunger positioner fail to reach its working position or leave it late, the section is stopped immediately and parison transfer does not take place.

Either of these situations may result in a damaged container finish, which needs to be detected before it reaches the customer. In addition, a poorly developed finish could produce an insecure hold during transfer from blank to blow side, with the danger of causing accidental damage. Both risks are limited by the loading position monitoring system which operates in real-time and stops the section immediately.

Turning to the blow side, the dead plate position for each cavity is monitored by an infrared sensor underneath the dead plate over the entire cycle of a section. If the heat radiation is abnormal or does not exist at a certain time, a glass handling failure or demoulding has occurred. As soon as this situation has been identified, subsequent gobs for this section will be rejected, thereby minimising downtime and avoiding wasteful maintenance.

IS-MACHINE DESIGN
The equipment innovations include a machine bed that features integrated cable channels for blank and blow sides. Not only does this arrangement protect the cables but it avoids the danger of them being burnt by hot glass and other hazards. Importantly, it also avoids unnecessary repairs in the production area.

Final blow manifolds are now located under hoods, where cables and valves are protected against heat and dirt. As well as providing greater durability, they are easier to clean and are more secure.

Specially designed covers have been widely adopted to protect the installed equipment and cables etc. As a result, maintenance personnel are assured a clean and uncluttered environment to perform necessary settings and inspection tasks. This results in time savings and increased productivity.

Another useful tool is an electrically-operated blank side lifting device, which provides improved ergonomics for personnel conducting necessary maintenance work, while also protecting them against physical overload situations.

PROTECTION GRID FOR THE BLANK SIDE
The protection grid on the blank side is visually impressive. As automatic safety device it provides an important link with the IS machine’s control system. In order to perform the lubrication programme of the preforms, the operator actuates the corresponding button, after which the station is moved to the rest position, the grid is lowered and access to the lubrication process is provided. The operator confirms the completion of lubrication using the corresponding button, the grid is raised and the station returns to operation. Experienced machine operators can use a key switch that lowers the grid during production to optimise gob loading, check cooling systems etc.

ABOUT THE AUTHORS:
Willfried Seidensticker is Product Manager, Hot End Solutions and Mark Ziegler is Marketing Manager at Heye International

FURTHER INFORMATION:
Heye International, Obernkirchen Germany
tel: +49 5724 26 0
e-mail: marketingt@heye-international.com
web: www.heye-international.com
MULTILEVEL SAFETY CONCEPT
HEYE SPEEDLINE IS-MACHINES

HIGH SPEED AT HIGH QUALITY
PLUS SUPERIOR LIFETIME

- High safety and high usability to protect staff and equipment
- Clear interfaces for fast installation and exchange of parts
- Clean design to fulfill HACCP requirements
- Flexibility through modular design
- Same core – same variables

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