

Virtual Gauge Technology

VIRTUAL 2000

With the VIRTUAL 2000 concept gone is the day when it was impossible to quickly control diameter or wall thickness directly after the extruder due to line configuration or product composition. Forward-looking measuring technologies are need-

Perfected Simulation Technology

VIRTUAL 2000 is the next chapter of measuring technology for the cable sector. This technology developed by SIKORA innovatively controls the diameter or wall thickness of the product quickly and precisely at the requested nominal value even though the cable has not reached the real gauge head, which is usually installed after the cooling through.

Forward Thinking Design

With the help of VIRTUAL 2000 the installation of a gauge head close to the extruder is no longer a requirement. Only after the cooling section, that is to say in greater distance from the cross head, the true measurement of the diameter and wall thickness is made.

The basis of the design is simple; this sophisticated idea to incorporate an extrusion model to control the line has proven ultimately reliable. The system is taught the volume output of the extruder in its different operating conditions to predict with highest accuracy the value of the produced cold wall thickness of a cable. The volume output is "mapped" and recorded once in a user friendly way in the ECOCONTROL 2000 processor system in combination with a measuring device like the LASER Series diameter gauge, CENTERVIEW 8000 Eccentricity/wall thickness gauge or X-RAY 2000 Wall thickness system.

If there are several extruder screws in use, their volume output will also be collected. New material types do not demand a

Real advantages

In practice, the VIRTUAL 2000 fascinates especially where the installation of a gauge head is not possible from the process-related point of view. Many HDPE materials require an immediate cooling after the extrusion and thus do not offer the possibility to place a diameter gauge head between cross head and cooling section. Due to the precisely predicted cold wall thickness this technology guarantees an exact control of the extruder. The measuring system at the end of the line measures the real values of the cable which are then incorporated into the control. The VIRTUAL 2000 is compatible with the X-ray measuring devices

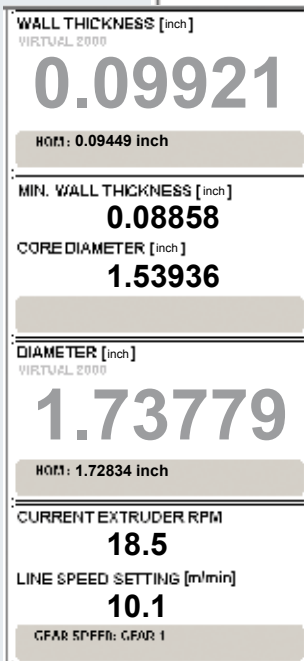
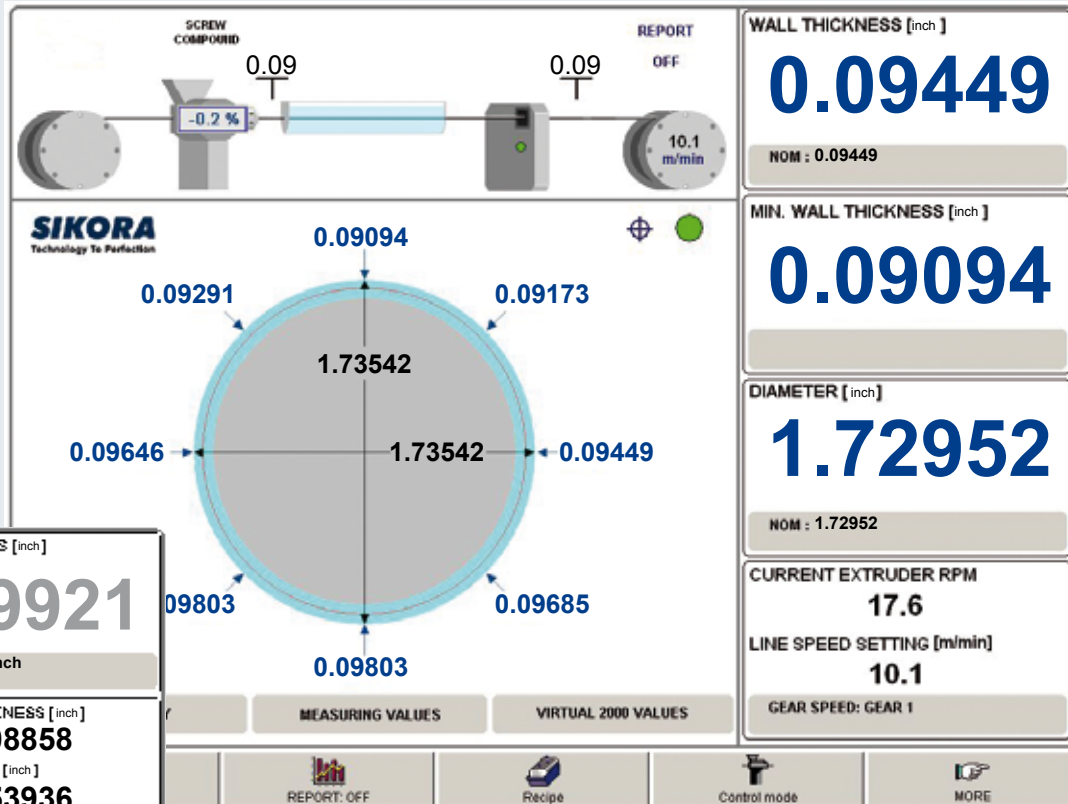
ed that quickly and easily provide precise measuring values – even under most extreme line conditions such as shortage of space for a hot gauge head after the extrusion.

Previously, for cables which are produced with a relatively low haul-off speed it was not possible to control the extruder from the end of the line due to the dead time resulting from the distance of the measuring device to the extruder. The Virtual Gauge Technology eliminates this lag time and shows even during the start of the production the expected cold wall thickness despite the fact that the cable has not arrived at the measuring device.

change of the volume output, but only a short calculation of the material-specific factor with the help of ECOCONTROL 2000. In the event of exceeding the control limit the system alarms the operator and gives visual information that a material change was done and that this must be notified to the system. ECOCONTROL 2000 displays the virtual as well as the real measuring value of the wall thickness clearly on a 15" TFT touch-screen monitor.

The specification of a cold wall thickness value is a decisive advantage over conventional methods where the extruder rpm is entered and as a result a wall thickness value is achieved. The control of the extruder is in consideration of the haul-off speed set by the operator. The virtual measuring gauge head calculates the extruder rpm to realize the specified wall thickness. The measuring device after the cooling section balances the actual wall thickness against the predicted one and controls the extruder to the requested nominal value.

X-RAY 8000 NXT and X-RAY 2000, CENTERVIEW 8000 as well as the laser measuring systems of the LASER 2000 series. The Virtual Gauge Technology is perfectly suited for application in the cable and wire market. As this method does not require a hot measurement issues such as contamination, water influence or mechanical load are eliminated.



Due to the precisely predicted cold wall thickness VIRTUAL 2000 guarantees an exact control of the extruder. The measuring system at the end of the line measures the real values of the cable which are then incorporated into the control.

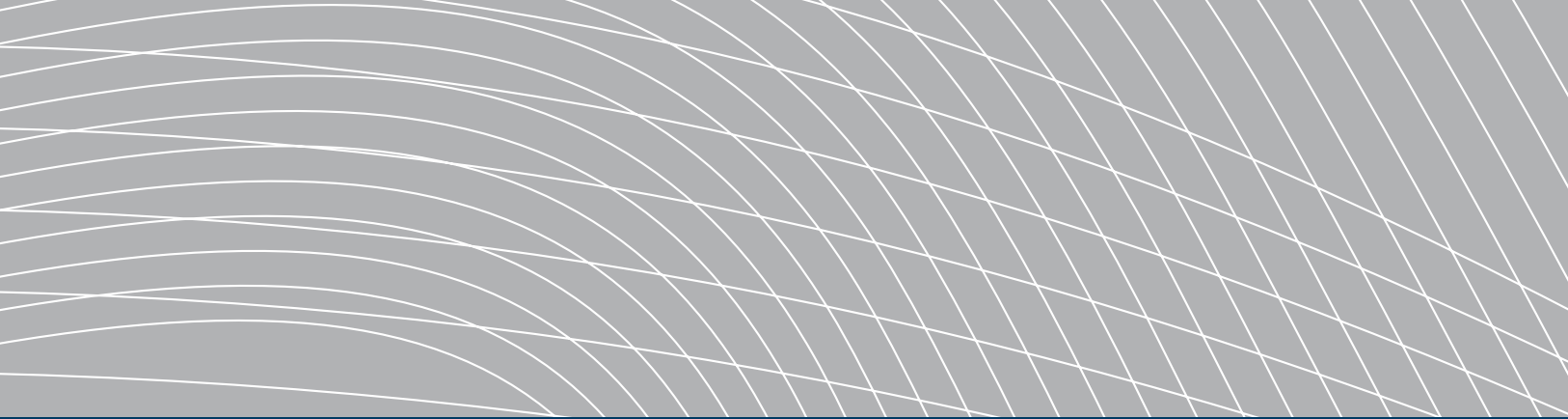
The Virtual 2000 shows even during the start of the production the expected cold wall thickness despite the fact that the cable has not arrived at the measuring device.

Outstanding features:

- Fast control of the wall thickness/diameter during the start-up phase
- Elimination of start-up times and minimized start-up scrap
- Elimination of a hot gauge head
- Elimination of shrinkage specification since cold wall thickness is calculated
- Material savings during start-up phase



Fulfills the requirements of
DIN EN ISO 9001:2000



SIKORA INTERNATIONAL CORP

215 Prospect Park Suite C
Peachtree City
GA 30269
USA
Phone + 1-770-486-1233
Fax +1-770-486-1201
sales@sikora-usa.com

SIKORA AG

Headquarters
Bruchweide 2
28307 Bremen
Germany
Phone +49 421 48900 0
Fax +49 421 48900 90
sales@sikora.net

SIKORA ASIA CORP

Fuzhou, P.R. China
sales@sikora-asia.com

SIKORA BRASIL

São Paulo, Brazil
sales@sikora-usa.com

SIKORA INDIA

New Delhi, India
sikoraindia@gmail.com

SIKORA ITALIA

Vicenza, Italy
sales@sikora-italia.com

SIKORA KOREA

Seoul, Korea
sikora@chol.com

SIKORA RUSSIA

Moscow, Russia
sales@sikora-russia.com

SIKORA UKRAINE

Vinnitsa, Ukraine
sikora@vinnica.ua