Press Release Sensor Instruments

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Perfect monitoring of the SOLA spirit level supply chain. And that from pellet to pellet!

R-Cycle + TAGTEC

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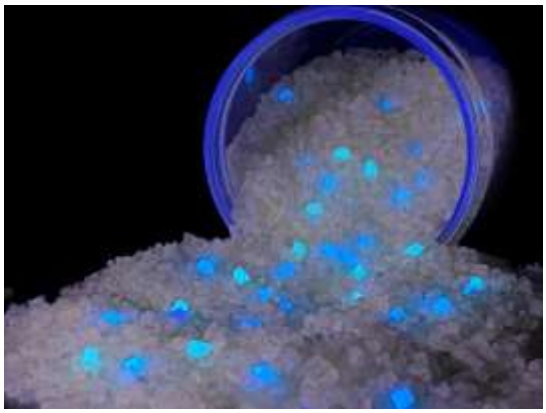
What is the best way to monitor my product throughout its life cycle? This was the question with which we, the staff of Gabriel-Chemie and Sensor Instruments in the “SOLA team”, were confronted. We were of course, familiar with R-Cycle and their digital product passport, DPP. The opportunities presented by this feature were exactly the building block we were looking for: a DPP would enable us to query the product and recycling-relevant data a very simple fashion. But which code should we rely on to open the DPP? R-Cycle offered two options, the tried-and-tested QR code and smart digital watermarks. Both could either be applied to the product as sleeves or labels or lasered into the injection mould in 3D code. However, as the injection moulding for the production of the spirit levels had already been selected, the manufacturer did not want to rework the mould or use sleeves or labels, so the QR code was the only real choice. Digital watermarks are considered copy-proof, whereas a QR code is easy to imitate.



The use of TAGTEC masterbatches from Gabriel-Chemie, containing a wide range of light-stimulable markers and detectable using special optical sensor technology from Sensor Instruments, meant however, that this was not a problem for our “SOLA team”. The addition of only a few more ingredients from Gabriel-Chemie to the TAGTEC masterbatch enabled very large increases in the contrast of the QR code during the lasering process. TAGTEC-marked products have proven to be forgery-proof, especially when used in combination with the features provided by a DPP, thereby providing very robust and reliable supply chain monitoring.

The TAGTEC-specific detector data is stored on the DPP. During product monitoring, this TAGTEC data is first read out using Sensor Instruments devices and compared with the data stored in the DPP. If the data does not match, an appropriate intervention is made in the supply chain. TAGTEC also provides excellent features applicable to product recycling, as they can be read out with inline sensors using the specific data.

The temperature resistance of the TAGTEC marker particles up to 900°C means that TAGTEC can also be detected in the plastic flakes and the recyclate. This enables closure of the product traceability loop, enabling seamless supply chain monitoring, virtually from pellet to pellet.

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