JSC AutoVaz is the largest passenger cars manufacturer in Russia which produces more than 700,000 cars per year. To control the moisture content of plastic, JSC AutoVaz’s raw plastics lab chooses METTLER TOLEDO’s solutions to replace the old analysis method which greatly increases their efficiency and productivity.

It’s All About Moisture
Plastic parts are widely used in the automotive industry, therefore quality control at each step of plastics processing is very important to a vehicle’s overall safety and should be carried out accurately and thoroughly. AutoVaz’s raw material lab performs various plastics analysis: melt flow index, yield strength, tensile strength, flexibility modulus, shrinkage, density, melting point and moisture content. Moisture content in raw material is one of the most important parameters for plastic processing.
Excessive water content in raw polymer pellets used for the production of injection molded parts may lead to the formation of internal or surface pores. This directly influences the strength and appearance of parts such as control panels, door coatings, bumpers etc. This is why AutoVaz tests each batch of polypropylene, polycarbonate/ABS compounds, ABS plastics and polyamide used for production. AutoVaz used the drying oven method to determine the moisture content of polymer pellets. They found that the analysis took far too much time (up to 3 hours for each sample) and that the reproducibility of ±0.01 % MC (moisture content) was not sufficient to satisfy increasing quality control requirements. This lead the AutoVaz raw plastics lab to search for a newer, more precise and more efficient analysis method.

**Professional Support Counts**

METTLER TOLEDO offered a titration system incorporating a DL32 coulometric Karl Fischer Titrator and a DO308 drying oven. “We purchased a DL32 equipped with the DO308 for polymer granule moisture analysis almost a year ago from METTLER TOLEDO”, Mrs. Tatyana Kozelskaya, head of raw plastics laboratory, explains- “the service engineer from METTLER TOLEDO installed the system and trained our lab technicians to perform the analysis. It was really easy to familiarize ourselves with the instrument and to start analyzing all our samples on daily basis. Thanks to the Russian language menu and intuitive interface of the DL32, start-up time was really short.”

“We weigh 5 g of plastic sample with METTLER TOLEDO’s AE200-S Analytical Balance directly into the sample boat of the DO308. We then put this boat into the DO308 and start the analysis. Moisture analysis of plastic pellets using the DL32 and DO308 takes only 15 minutes now. This equates to a huge time saving and higher sample throughput.” High test result reproducibility greatly assists AutoVaz in the quality control of each batch of polymer. This also means less raw material wastage and faster reaction times to necessary production corrections if necessary.

“METTLER TOLEDO offers really efficient and reliable systems for analysis of moisture in plastics. High level services provided by METTLER TOLEDO ensure us continuous problem-free system operation.” Mrs. Kozelskaya concludes.

For more information on the successor of AE200-S, the XS204 Excellence analytical balance, go to:

- [www.mt.com/xs-analytical](http://www.mt.com/xs-analytical)
- [www.mt.com/Karl-Fischer](http://www.mt.com/Karl-Fischer)