

# The ISO Standard 18064

## Preview to the revised edition of the TPE nomenclature

*Are you familiar with standardization? Of course you are. You can hardly find something in a technical area where there is no norm. Fortunately, on the ISO level an agreement has to be worked out that a standard is valid worldwide. To be a part of that International Standard Organization a person has to be delegated from a national association, e.g. DIN in Germany.*

And that happened for a project concerning the ISO 18064. I hope everybody who is involved in the technology of Thermoplastic Elastomers (TPE), uses the nomenclature defined in that norm. This is the value of such a standard, that the people talk about the same material when they mention the same one.

On the other way around, a norm should provide a good compromise to be precise and simple enough getting a high acceptance in market and in the literature. But it should be up to date as well. And this is the reason that a project is running in the ISO 18064. The TPE family is quite a young one in the plastics industry and literally be covered under the rubber world either or the engineering plastics organization. Both are understandable because the TPE are squeezed among them like the 18064 says:

**“polymer or blend of polymers that has properties at its service temperature similar to those of vulcanized rubber but can be processed and reprocessed at elevated temperature like a thermoplastic”**

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Standardization helps reaching the goal to establish TPE as a precisely defined family of materials.



Meanwhile a market of 5 to 6 million tonnes are expected in the world and the TPE are about to become an own product group and to get a visibility in that capacity. One step into that direction is the above named project, initiated and discussed in the expert reunion of TPE Forum in Germany. Additionally, it was the vehicle to create an official TPE working group in the German standard association, the DIN.

What about the ISO 18064? Let's emphasize one crucial point of the initiative to work on that norm. The TPO are defined as a polymer blend of olefinic materials, in most cases PP and EPDM. Since many years, olefinic copolymers are established in the market and not covered in this nomenclature standard. The goal is to differentiate between them, designated as TPO-C for copolymers and TPO-M for polymer mixtures. Another big part is the situation on the TPS, the styrenic-based elastomers. One important information should be provided: Is the TPS saturated or still unsaturated, means, keeps it double bonds which can be attacked by oxygen and weaken the material during a long-term use. A few other little adaptations are

made and the agreement on these changes is fixed in the ISO working group. The status of Draft International Standard (DIS) is achieved and the draft is published for the interested parties. This is the last step to become a regular ISO standard.

Let us hope, that the reworked norm will find much more followers and the terms in the ISO 18064 will be used commonly. The TPE Forum and the DIN committee will be active further on to generate the TPE as an own established product family.

The ISO 18064:2014 established a first nomenclature system for thermoplastic elastomers based on the chemical composition of the polymer or polymers involved. The standard defines symbols and abbreviated terms used to identify thermoplastic elastomers in industry, commerce, and government. The revised version of the TPE standard is currently in vote for publication and review. Finishing and release of this standard is expected for the second half of this year.