Standard measurement method for deliveries from Compounds AG

In order to be able to guarantee the quality of our products at all times, all our products are subject to process-accompanying quality monitoring. The results of our standard tests are sent to our customers together with the delivery documents if this is provided for. For this purpose, a test plan is fulfilled for each production order and the measured values are documented. There are different test plan versions for our various product groups, which are listed below.

rubber compounds

In principle, the rheometry (crosslinking characteristics) on the raw mixture as well as the hardness (ShA) and the density on vulcanized test specimens are tested for all mixtures produced, at least for each order. As additional tests, the Mooney viscosity and bulk density can be tested on the raw compound, and the compression set (CVR) on vulcanized test specimens at ambient temperature or elevated temperatures, the tear strength, tensile strength, elongation at break, tear propagation resistance, stress values at defined elongations, abrasion resistance, electrical properties (electrical and specific resistance) as well as the rebound elasticity can be measured.

Furthermore, tests after defined aging, color tests, direct visual inspection with optical magnification (specks, agglomerates, etc.), moisture measurements and behavior towards liquids (swelling values, changes in physical properties) are possible.

The following table lists all available tests.

test	**relevant standard**		**Standard testing device**
Vulkametry [F=f(t), t]	DIN 53529 Teil 3	Standard	Vulkameter (MDR)
Shore-Hardness [ShA/ShAO/ShD]/[IRHD]	DIN ISO 7619-1/DIN ISO 48	Standard	Durometer Shore A/D/AO IRHD (M)
density [g/cm^3]	ISO 1183-1	Standard	immersion meter
Mooney Viskosity [M]	DIN 53523 Teil 3	chargeable	Mooney Viskometer
compression set [%]	DIN ISO 815-1	chargeable	Deformation unit, heating cabinet, thickness gauge
tensile test [MPa, %]	ISO 37/DIN 53504	chargeable	tensile testing machine
tear resistance [N/mm]	DIN ISO 34-1 A&B	chargeable	tensile testing machine
rebound [%]	DIN 53512	chargeable	extern
abrasion [%, mm^3]	DIN ISO 4649/A&B	chargeable	Rotating cylinder drum
elektrostatics [S/m]	IEC 61340-2-3	chargeable	highohmmeter
art. aging [div]	DIN 53508	chargeable	heating cabinet
color check [dE*]	DIN ISO 11664-4	chargeable	Spectral Colorimeter

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visual inspection [n]	DIN EN 13018	chargeable	Microskope
humidity content [%]	ISO 11465:1993	chargeable	Analytical balance (gravimetric)
behaviour against fluids [ΔV_{100}; Δm_{100}; ΔH; ΔX]	DIN ISO 1817	chargeable	Total immersion tester

standard tolerances

Unless otherwise stated, the following tolerances apply to the standard measurements. For all other measurements, the tolerances will be communicated on request.

test	**Relevant standard**	**Tolerannce**	**Max**
Shore-Härdness [ShA/ShAO/ShD]/[IRHD]	DIN ISO 7619-1/DIN ISO 48	+/-5	Durometer Shore A/D/AO IRHD (M)
density [g/cm^3]	ISO 1183-1	+/-0.02	immersion meter

rollerhead films

Measurements on the mixtures processed into films or sheets on the rollerhead system (calander) are also carried out according to the test standards and specifications listed above. The dimensions of the foils and plates are specified after consultation.

If the tolerance of the dimensions is not explicitly specified, DIN EN 3301-2 /E2 applies to the thickness.

On request, the standard characteristic values can be determined again on the calandered semi-finished products / flat products, and any additional tests specified by the customer can be carried out (subject to a charge).

Extruded / ready-made articles

The main dimensions (height, width, length) are the defined test standard for extruded and ready-made articles. These are recorded by our employees in the process-accompanying documentation. If further dimensions are necessary for the function of the component, these can also be checked and documented. This additional effort is to be defined by the customer and may cause additional costs.

test	**Relevant standard**		**Standard testing device**
main dimensions h/b/l [mm]	DIN ISO 3302-1:2016-10	Standard	gauge
Shore-Hardness [ShA]	DIN ISO 7619-1/DIN ISO 48	Standard	Rubber Hardness Tester A
detaillierte Geometrie	DIN ISO 3302-1:2016-10	chargeable	gauge
Elektrostatik [S/m]	IEC 61340-2-3	chargeable	High ohmmeter Metriso 2000
Sonstige phys. Kennwerte (s. o.)		chargeable	diverse
Dichtheitsprüfung	Interne Norm	chargeable	waterbath

Standard tolerances

If the specification of the measurands has not been explicitly discussed and agreed with the customer, the standard specifications for hardness and density apply. If the tolerance of the dimensions is not explicitly specified, DIN ISO 3302-2 /E2 /L2 applies to the thickness.

Unless otherwise stated, the following tolerances apply to the standard measurements. For all other measurements, the tolerances will be communicated on request.

test	**relevant standard**	**Tolerance**	**Standard testing device**
Main dimension h/b [mm]	DIN ISO 3302-1:2016-10		gauge
Shore-Hardness [ShA]	DIN ISO 7619-1/DIN ISO 48	+/-5	Rubber Hardness Tester A

The procedures and measurements can be adapted, shortened, or expanded by Compounds AG.

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