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Kunden-Referenz-Nr.: <i>Client Reference No.:</i>	--	Auftragsdatum: <i>Order date:</i>	30.11.2016	
Auftraggeber: <i>Client:</i>	Knauf Insulation, d.o.o., Skofja Loka, Trata 32, 4220 SKOFJA LOKA, SLOVENIA			
Prüfgegenstand: <i>Test item:</i>	Insulation material			
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	KI DAP GNF			
Auftrags-Inhalt: <i>Order content:</i>	Contamination test			
Prüfgrundlage: <i>Test specification:</i>	2 PfG S 0079_03.12 Mineral fibers in cookers and ovens			
Wareneingangsdatum: <i>Date of receipt:</i>	07.12.2016			
Prüfmuster-Nr.: <i>Test sample No.:</i>	A000147003-001			
Prüfzeitraum: <i>Testing period:</i>	07.12.2016 – 25.01.2017			
Ort der Prüfung: <i>Place of testing:</i>	Emission Testing Nuremberg			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland LGA Products GmbH			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft von / tested by:	kontrolliert von / reviewed by:			
25.01.2017 <i>Date</i>	i. A. Achim Bauer, Expert <i>Name / Stellung</i> <i>Name / Position</i>	25.01.2017 <i>Date</i>	i. A. Gerhard Frank, Expert <i>Name / Stellung</i> <i>Name / Position</i>	
Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Unterschrift <i>Signature</i>
Sonstiges / Other:	Additional quantification of total fluorine content without any evaluation.			
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>	Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>			
* Legende:	1 = sehr gut P(ass) = entspricht o.g. Prüfgrundlage(n)	2 = gut F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	3 = befriedigend 4 = ausreichend	5 = mangelhaft N/A = nicht anwendbar N/T = nicht getestet
Legend:	1 = very good P(ass) = passed a.m. test specification(s)	2 = good 3 = satisfactory F(ail) = failed a.m. test specification(s)	4 = sufficient N/A = not applicable	5 = poor N/T = not tested
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

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Liste der verwendeten Prüfmittel
List of used test equipment

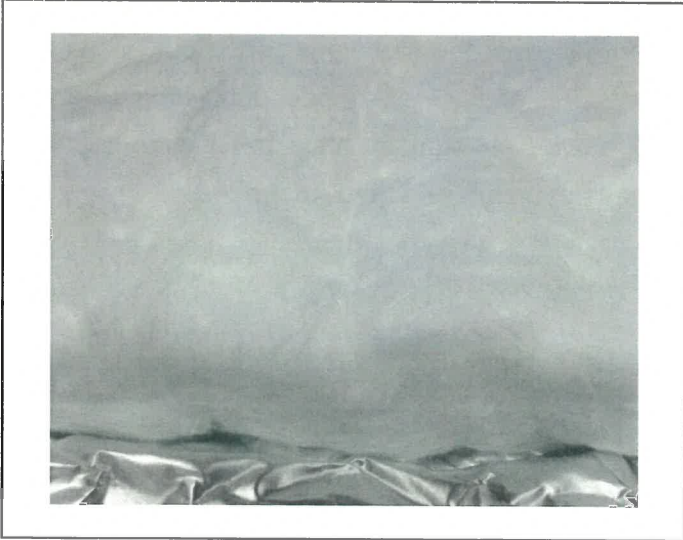
Prüfmittel <i>Test equipment</i>	Prüfmittel-Nr. / ID-Nr. <i>Equipment No. / ID-No.</i>	Nächste Kalibrierung <i>Next calibration</i>
N/A	N/A	N/A


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Produktbeschreibung
Product description

1	Produktdetails <i>Product details</i>	Needle glass mineral wool KI DAP GNF
2	Hersteller <i>Manufacturer</i>	Knauf Insulation



 TÜVRheinland®



Prüfmuster: A000147003-001

Adressiert an Claudia Hübsch

Wareneingang: 06.12.2016 *07.12.16*

Kunde: 3144214/Knauf Insulation, d.o.o.

Bezeichnung: GNF Glaswolle

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Clause	Anforderungen - Prüfungen / <i>Requirements - Tests</i>	<i>Measuring results - Remarks</i>	<i>Evaluation</i>

Test methods

Formaldehyde and higher aldehydes

An amount of 20 g of the insulating material was heated in a furnace with quartz ceramic tube up to 350 °C. At a rate of 60 l/h dry synthetic air was purged over the sample for one hour in the pre-heated tube furnace. The outgoing air was conducted into two impingers containing 25 ml of DNPH solution each. After finishing sampling the aldehyde content absorbed in the solution was determined by means of HPLC-DAD.

Methylisocyanate (MIC)

An amount of 5 g of the insulating material was heated in a furnace with quartz ceramic tube up to 350 °C. The pyrolysis gas containing MIC was adsorbed and analyzed according to internal QAA-SL-N3010 as well as following ISO 17734-1.

Additional test for total fluorine (not part of 2 PfG S 0079_03.12)

An amount of 20 g of the insulating material was heated in a furnace with quartz ceramic tube up to 350 °C. At a rate of 60 l/h dry synthetic air was purged over the sample for one hour in the pre-heated tube furnace. A second sample was heated up to 500 °C. Subsequently the solutions where burned at the wickbold apparatus. The dissolved substances have been absorbed with NaOH-Solution and subsequently quantified by means of an ion selective electrode.

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Test results

Substances	Sample KI DAP GNF [mg/kg]	Limit value "LGA tested for contaminants" for glass wool [mg/kg]	Evaluation
Formaldehyde	3.4**	≤ 10	pass
Acetaldehyde (Ethanal)	2.2**	≤ 10	pass
Propanal	0.3**	Total: ≤ 10	pass
Butanal	0.2**		
Pentanal	0.1**		
Methylisocyanate (MIC)	< 0.01**	≤ 0.02	pass
Acetone	1.7**	-	*)
Total fluorine at 350 °C	< 0.3	-	*)
Total fluorine at 500 °C	< 0.3	-	*)

*) results without evaluation

**) results are adopted from test report no. 21263059 002. All tests of all parameters have been performed at the same sample

