Kraftfahrt-Bundesamt

DE-24932 Flensburg

E 1

MITTEILUNG

ausgestellt von:
Kraftfahrt-Bundesamt

über die Erteilung einer Genehmigung für einen Runderneuerungsbetrieb nach der Regelung Nr. 109 einschließlich Änderung Nr. 00 Ergänzung 12

COMMUNICATION

issued by:
Kraftfahrt-Bundesamt

concerning the granting of an approval of a retreading production unit pursuant to Regulation No. 109 including amendment No. 00 supplement 12

R109 E1*109R00/12*0578*00

Genehmigungsnummer: **E1*109R00/12*0578*00**
Approval number:

1. Fabrikmarke (Handelsname des Herstellers):
Make (trade name of manufacturer):
Galgo
Vipal
EIB
Portugal
Nokian

2. Name und Anschrift des Herstellers:
Manufacturer's name and address:
Pneuworld GmbH
DE-90451 Nürnberg

3. Name und Anschrift des Bevollmächtigten des Herstellers (gegebenenfalls):
Name and address of manufacturer's representative (if any):
Entfällt
Not applicable

4. Zusammenfassende Beschreibung wie in 4.1.3 und 4.1.4 dieser Regelung:
Summarized description as in paragraphs 4.1.3 and 4.1.4 of this Regulation:
Siehe Beiblatt
See Addendum

elektronisch gesiegelt
Kraftfahrt-Bundesamt
17.07.2026
09:38:54 UTC
Typgenehmigung

Genehmigungsnummer: **E1*109R00/12*0578*00**
Approval number:

5. Für die Durchführung der Prüfungen zuständiger technischer Dienst:
Technical service responsible for carrying out the tests:
Prüflabor Nord GmbH
DE-24616 Brokstedt

6. Datum des Gutachtens:
Date of test report:
23.06.2026

7. Nummer des Gutachtens:
Number of test report:
PW-L26001

8. Grund oder Gründe für die Erweiterung der Genehmigung:
Reason(s) of extension of approval:
Entfällt
Not applicable

9. Die Genehmigung wird **erteilt**
Approval is **granted**

10. Bemerkung(en):
Remark(s):
***) siehe Anlage**
see attachment

11. Ort: **DE-24932 Flensburg**
Place:

12. Datum: **17.07.2026**
Date:

13. Unterschrift: **Im Auftrag**
Signature:

Jörg Burgkhardt

KRAFTFAHRT-BUNDESAMT 527

R109 E1*109R00/12*0578*00

Genehmigungsnummer: **E1*109R00/12*0578*00**
Approval number:

Anlagen:
Enclosures:
Gemäß Inhaltsverzeichnis
According to index

R109 E1*109R00/12*0578*00

Kraftfahrt-Bundesamt

DE-24932 Flensburg

Beiblatt
Addendum

Genehmigungsnummer: **E1*109R00/12*0578*00**
EU type-approval number:

Reifenmerkmale characteristics of tyres		**Heißverfahren** hot procedure	**Kaltverfahren** cold procedure
from/to	Nenn-Querschnittsbreite (mm) nominal section width	*)	*)
	Nenn-Querschnittsverhältnis nominal aspect ratio	*)	*)
von/bis	Nenndurchmesser Felge (Zoll) nominal rim diameter code (inch)	*)	*)
Max. Geschwindigkeitskategorie(n) maximum speed symbol		*)	*)
Max.Tragfähigkeitskennzahl maximum load index		*)	*)
Handelsmarke trade mark		*)	*)
Runderneuerungsverfahren procedure of retreading		*)	*)
Verfahren zum Aufbringen des neuen Materials method of application of new material		*)	*)
Reifenbauart structure of the tyre		*)	*)
Verwendungsart category of use		*)	*)
Reifennorm international tyre standard		*)	*)

Anschrift(en) der Fertigungsstätte(n):
Address(es) of assembly plant(s):
Pneuworld GmbH
DE-90451 Nürnberg

R109 E1*109R00/12*0578*00

Kraftfahrt-Bundesamt

DE-24932 Flensburg

Zu: **E1*109R00/12*0578*00**
To:

Erklärung über die Einhaltung der Anforderungen hinsichtlich der Übereinstimmung der Produktion gemäß dem Übereinkommen von 1958
Statement of compliance with the conformity of the production requirements of the 1958 Agreement

1. Name des Herstellers:
   Manufacturer's name:
   Pneuworld GmbH
   DE-90451 Nürnberg

2. Datum der Anfangsbewertung:
   Date of the initial assessment:
   14.07.2026

3. Datum aller durchgeführten Überwachungstätigkeiten:
   Date of any surveillance activities:

Aktenzeichen Register number	Datum der Begehung Date of inspection	Genehmigungsnummer Approval number

   CoP-Q:
   Entfällt
   Not applicable

   CoP-P:
   Entfällt
   Not applicable

R109 E1*109R00/12*0578*00

Kraftfahrt-Bundesamt

DE-24932 Flensburg

Zu: **E1*109R00/12*0578*00**
To:

Inhaltsverzeichnis zu den Beschreibungsunterlagen
Index to the information package

Ausgabedatum: Date of issue:	**17.07.2026**	Letztes Änderungsdatum: Last date of amendment:	**--**

Nebenbestimmungen und Rechtsbehelfsbelehrung
Collateral clauses and instruction on right to appeal

Prüfbericht(e) Nr.: Test report(s) No.: **PW-L26001**	Datum: Date: **23.06.2026**
Beschreibungsbogen Nr.: Information document No.: **Entfällt** **Not applicable**	Datum: Date:
Liste der Änderungen: List of modifications: **Entfällt** **Not applicable**	Datum: Date:

R109 E1*109R00/12*0578*00

Kraftfahrt-Bundesamt
DE-24932 Flensburg

Nummer der Genehmigung: **E1*109R00/12*0578*00**

- Anlage -

Nebenbestimmungen und Rechtsbehelfsbelehrung

Nebenbestimmungen

Jede Einrichtung, die dem genehmigten Typ entspricht, ist gemäß der angewendeten Vorschrift zu kennzeichnen.

Die Einzelerzeugnisse der reihenweisen Fertigung müssen mit den Genehmigungs-unterlagen genau übereinstimmen. Änderungen an den Einzelerzeugnissen sind nur mit ausdrücklicher Zustimmung des Kraftfahrt-Bundesamtes gestattet.
Änderungen der Firmenbezeichnung, der Anschrift und der Fertigungsstätten sowie eines bei der Erteilung der Genehmigung benannten Zustellungsbevollmächtigten oder bevollmächtigten Vertreters sind dem Kraftfahrt-Bundesamt unverzüglich mitzuteilen.
Verstöße gegen diese Bestimmungen können zum Widerruf der Genehmigung führen und können überdies strafrechtlich verfolgt werden.

Die Genehmigung erlischt, wenn sie zurückgegeben oder entzogen wird, oder der genehmigte Typ den Rechtsvorschriften nicht mehr entspricht. Der Widerruf kann ausgesprochen werden, wenn die für die Erteilung und den Bestand der Genehmigung geforderten Voraussetzungen nicht mehr bestehen, wenn der Genehmigungsinhaber gegen die mit der Genehmigung verbundenen Pflichten - auch soweit sie sich aus den zu dieser Genehmigung zugeordneten besonderen Auflagen ergeben - verstößt oder wenn sich herausstellt, dass der genehmigte Typ den Erfordernissen der Verkehrssicherheit oder des Umweltschutzes nicht entspricht.

Das Kraftfahrt-Bundesamt kann jederzeit die ordnungsgemäße Ausübung der durch diese Genehmigung verliehenen Befugnisse, insbesondere die genehmigungsgerechte Fertigung sowie die Maßnahmen zur Übereinstimmung der Produktion, nachprüfen. Es kann zu diesem Zweck Proben entnehmen oder entnehmen lassen. Dem Kraftfahrt-Bundesamt und/oder seinen Beauftragten ist ungehinderter Zutritt zu Produktions- und Lagerstätten zu gewähren.

Die mit der Erteilung der Genehmigung verliehenen Befugnisse sind nicht übertragbar. Schutzrechte Dritter werden durch diese Genehmigung nicht berührt.

Rechtsbehelfsbelehrung

Gegen diese Genehmigung kann innerhalb eines Monats nach Bekanntgabe Widerspruch erhoben werden. Der Widerspruch ist beim **Kraftfahrt-Bundesamt, Fördestraße 16, DE-24944 Flensburg,** schriftlich oder zur Niederschrift einzulegen.

R109 E1*109R00/12*0578*00

Approval No.: **E1*109R00/12*0578*00**

- Attachment -

Collateral clauses and instruction on right to appeal

Collateral clauses

All equipment which corresponds to the approved type is to be identified according to the applied regulation.

The individual production of serial fabrication must be in exact accordance with the approval documents. Changes in the individual production are only allowed with express consent of the Kraftfahrt-Bundesamt.
Changes in the name of the company, the address and the manufacturing plant as well as one of the parties given the authority to delivery or authorised representative named when the approval was granted is to be immediately disclosed to the Kraftfahrt-Bundesamt.
Breach of this regulation can lead to recall of the approval and moreover can be legally prosecuted.

The approval expires if it is returned or withdrawn or if the type approved no longer complies with the legal requirements. The revocation can be made if the demanded requirements for issuance and the continuance of the approval no longer exist, if the holder of the approval violates the duties involved in the approval, also to the extent that they result from the assigned conditions to this approval, or if it is determined that the approved type does not comply with the requirements of traffic safety or environmental protection.

The Kraftfahrt-Bundesamt may check the proper exercise of the conferred authority taken from this approval at any time. In particular this means the compliant production as well as the measures for conformity of production. For this purpose samples can be taken or have taken. The employees or the representatives of the Kraftfahrt-Bundesamt may get unhindered access to the production and storage facilities.

The conferred authority contained with issuance of this approval is not transferable. Trade mark rights of third parties are not affected with this approval.

Instruction on right to appeal

This approval can be appealed within one month after notification. The appeal is to be filed in writing or as a transcript at the **Kraftfahrt-Bundesamt, Fördestraße 16,
DE-24944 Flensburg.**

R109 E1*109R00/12*0578*00

Gemäß dem Übereinkommen über die Annahme
Einheitlicher Technischer Vorschriften für Radfahrzeuge,
Ausrüstungsgegenstände und Teile,
die in Radfahrzeuge(n) eingebaut und/oder verwendet werden können,
und die Bedingungen für die gegenseitige Anerkennung
von Genehmigungen, die nach diesen Vorschriften erteilt wurden.

Agreement concerning the adoption of uniform technical prescriptions for the wheeled vehicles, equipment and parts
which can be fitted and/or be used on wheeled vehicles and the conditions for mutual recognition of approvals granted on the basis of these prescriptions.

Einheitliche Bedingungen für die Genehmigung der Herstellung runderneuerter Luftreifen für Nutzfahrzeuge und ihre Anhänger

Uniform provisions concerning the approval of production of retreaded pneumatic tyres for commercial vehicles and their trailers

ECE- 109 R.

zuletzt geändert durch / amended by:
Änderung / amendment
Ergänzung / appendix

Supplement 12 / ÄS 00 vom / dated **05.01.2024**

		Genehmigungsstand State of approval
ECE		**Grundgenehmigung** **Basic approval**
	Hersteller / Manufacturer:	**Pneuworld GmbH**

0. Allgemeine Angaben:
General:

0.1 Fabrikmarke:
Trade mark:
Galgo, Vipal, EIB, Portugal, Nokian

0.2 Name und Anschrift des Runderneuerers / Herstellers:
Name and address of the retreading company / manufacturer:
Pneuworld GmbH
Donaustr. 101
D - 90451 Nürnberg

03. Name und Anschrift des bevollmächtigten Vertreters:
Name and address of representative, if applicable:

0.4 Name und Anschrift der Fertigungsstätte (n):
Name and address of the production plant (s):
Pneuworld GmbH
Donaustr. 101
D - 90451 Nürnberg

0.5. Hergestellte Reifen je Jahr ca.:
Manufactured tires for each year approx.
15.000 kalt
15.000 cold

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R109 E1*109R00/12*0578*00

beantragte Baureihe(n): **Kaltverfahren** **Baureihe 1**
applied model range(s): **cold procedure** **Range 1**

Reifenmerkmale **characteristics of tyres**		**Baureihe 1 (Kaltverfahren)** **Range 1** **(cold procedure)**	**Baureihe 2 (Heißverfahren)** **Range 2** **(hot procedure)**
von / bis from / to	**Nenn - Querschnitts-breite in (mm)** **nominal section width**	215 - 445	
	Nenn-Querschnittsverhältnis **nominal aspect ratio**	55 - 80	
	Nenndurchmesser Felge (Zoll) **nominal rim diameter code (inch)**	17,5 - 22,5	
Max. Geschwindigkeitskategorie **maximum speed symbol**		J - M	
Max. Tragfähigkeitskennzahl **maximum load index**		126 - 169	
Handelsmarke **trade mark**		Galgo, Vipal, EIB, Portugal, Nokian	
Runderneuerungsverfahren **procedure of retreading**		Kaltverfahren cold procedure	
Verfahren zum Aufbringen des neuen Materials **method of application of new material**		Besohlung top capping	
Reifenbauart **structure of the tyre**		Radial - Reifen radial - tyre	
Verwendungsart **category of use**		normal / M+S	
Reifennorm **international tyre standard**		ETRTO	

Bemerkungen: keine
remarks: none

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1. Für die Baureihe(n) repräsentative Reifenauswahl
representative selection of tyres for applied model range(s)

1.1. Probenentnahme durch: den Kunden
samplings through: the Customer

1.2. Beschreibung der Baureihe(n): Radialreifen
description of model range(s): radialtires

1.2.1 Baureihe 1: Kaltverfahren L26017 L26018 L26019 L26020 L26021 L26022
range 1: cold procedure 1 2 3 4 5 6

1.2.2 Baureihe 2: Heissverfahren keine
range 2: hot procedure none

Reifen / tyre	L26017 1	L26018 2	L26019 3	L26020 4	L26021 5	L26022 6
Nenn - Querschnittsbreite (mm) **nominal section width**	445	315	315	385	245	215
Nenn - Querschnittsverhältnis **nominal aspect ratio**	65	80	70	55	70	75
Nenndurchmesser Felge (Zoll) **nominal rim diameter code (inch)**	22,5	22,5	22,5	22,5	19,5	17,5
Geschwindigkeitskategorie(n) **speed symbol**	K	K	L	J	L	M
Tragfähigkeitskennzahl **load index**	169	156	156	160	136	126
Produktionsdatum der Karkasse **production date of carcasse**	26 / 17	12 / 18	47 / 17	32 / 18	02 / 18	15 / 19
Profilbezeichnung **tread pattern**	R 168+	ADT	H-DRIVE 002	STW13	APR	PRO WINTER 2
Laufflächenmaterial **tread material**	vorvulk. Laufstreifen	vorvulk. Laufstreifen	vorvulk. Laufstreifen	vorvulk. Laufstreifen	vorvulk. Laufstreifen	vorvulk. Laufstreifen
Aufbringung des neuen Materials **application of new material**	Besohlung	Besohlung	Besohlung	Besohlung	Besohlung	Besohlung
Reifenbauart **structure of the tyre**	Radial	Radial	Radial	Radial	Radial	Radial
Verwendungsart **category of use**	M+S	M+S	M+S	normal FRT	M+S	M+S

1.3 Bemerkungen: keine
remarks: none

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2. Reifenprüfung
tyre test

2.1. Ort der Prüfung: Brokstedt , Groß Floyen 14
place of test:

2.2. Datum der Prüfung: 02.06.2026 - 13.06.2026
date of test:

2.3. Eingangsdatum der Prüfreifen: 27.05.2026
date of receipt of tyres:

2.4. Meß- und Prüfeinrichtungen: Trommel - Test - Stand, A01a & A04b D / 2000 mm
equipment for measuring and testing: A03 D / 1700 mm
Die Prüfungen wurden auf Anlagen durchgeführt, die den Anforderungen der Regelung entsprechen.
The equipment, on which the tests are carried out, fulfilled the requirements of the regulation.

2.5. Aufschriften:
Marking:

2.5.1. Baureihe 1 : Kaltverfahren
range 1: cold procedure

2.5.2. Baureihe 2 : Heißverfahren keine
range 2: hot procedure none

Reifen / tyre	L26017 1	L26018 2	L26019 3	L26020 4	L26021 5	L26022 6
Fabrik-oder Handelsmarke trade name or mark	Galgo	Galgo	Galgo	Galgo	Galgo	Galgo
Größenbezeichnung der Reifens tyre-size designation	ok	ok	ok	ok	ok	ok
Tragfähigkeitskennzahl Load index	169	156	156	160	136	126
ggf. alternative Betriebskennung alternative load index	-	150	150	-	134	124
ggf. Tubless Tubeless, if applicable	-	-	-	-	-	-
ggf. M+S- Kennung M+S- inscription, if applicable	M+S	M+S	M+S	normal	M+S	M+S
Datum der Runderneuerung date of retreading	19 / 26	19 / 26	19 / 26	20 / 26	20 / 26	20 / 26
ggf.Kennzeichnung, nachschn. Profil marking as regroovable tread, if applicable	-	-	-	-	-	
PSI - Kennzahl psi - index	131	123	131	131	120	102
Label-Kennzeichnungen Label markings, retread	ok	ok	ok	ok	ok	ok
ggf. Spezialkennzeichnung markinghs as special use tyre if applicable	-	-	-	-	-	
ggf. Kennzeichnung der Reifen-, Felgengestaltung indication of the tyre to rim fitment if applicable	-	-	-	-	-	
ggf. die Buchstaben "C" oder "LT" the suffix "C" or "LT" if applicable	-	-	-	-	-	
ggf. die Buchstaben "CP" the suffix "CP" if applicable	-	-	-	-	-	
ggf. die Buchstaben "FRT" the suffix "FRT" if applicable	-	-	-	FRT	-	
3PMSF - Kennzeichnung 3PMSF - markings	-	-	-	-	-	
Genehmigungszeichen bzw. entspr. Fläche approval mark resp. Relevant surface area	ok	ok	ok	ok	ok	ok

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2.6. Abmessungen:
Dimensions:

2.6.1. Baureihe 1 : Kaltverfahren range 1: cold procedure		L26017 1	L26018 2	L26019 3	L26020 4	L26021 5	L26022 6
2.6.2. Baureihe 2 : Heissverfahren range 2: hot procedure		keine none					

Reifen / tyre		L26017 1	L26018 2	L26019 3	L26020 4	L26021 5	L26022 6
Prüffelge (nach ETRTO) measuring rim (according to ETRTO)		13,00	9,00	9,00	12,25	7,50	6,00
Messfelge (nach ETRTO) test rim (according to ETRTO)		13,00	9,00	9,00	12,25	7,50	6,00
Prüfdruck (bar) inflation pressure for testing		9,00	8,50	9,00	9,00	8,25	7,00
Querschnittsbreite section width	**zulässig (mm) acceptable**	468,4	322,9	322,9	407,2	261,6	222,6
	gemessen (mm) measured	448,2	319,1	318,8	385,7	248,2	213,2
Außendurchmesser outer diameter	**D_{min} (mm)**	1132,6	1060,9	1000,7	983,3	828,7	757,3
	D_{max} (mm)	1202,6	1123,7	1057,6	1028,2	874,2	799,5
	gemessen (mm) measured	1164,3	1098,1	1016,9	1008,6	853,5	779,6
Bewertung des Reifens Evaluation of the tyre		ok	ok	ok	ok	ok	ok

2.6.3 Bemerkungen: keine
remarks: none

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2.7. Leistungsprüfung: Trommelprüfstand D/ 1700 mm & 2000 mm
performance test: Drumrigg d/ 1700 mm & 2000 mm

2.7.1. Baureihe 1 : Kaltverfahren — L26017 1, L26018 2, L26019 3, L26020 4, L26021 5, L26022 6
range 1: cold procedure

2.7.2. Baureihe 2 : Heissverfahren — keine
range 2: hot procedure — none

Reifen / tyre	L26017 1	L26018 2	L26019 3	L26020 4	L26021 5	L26022 6
Prüfdruck (bar) **inflation pressure for testing**	9,00	8,50	9,00	9,00	8,25	7,00
Trommeldurchmesser (m) **test drum diameter**	1,7	1,7	2,0	1,7	2,0	2,0
Drehzahl (1/min) **test drum speed A01a, A04A, A03 / km/h**	175,0	175,0	170,0	150,0	170,0	191,0
Rampe (10 min) 66% (kg) **ramp**	66% 3828,0	66% 2640,0	66% 2640,0	66% 2970,0	66% 1478,4	166% 1122,0
Prüflast 1 (7h) 66% (kg) **test load 1**	66% 3828,0	66% 2640,0	66% 2640,0	66% 2970,0	66% 1478,4	166% 1122,0
Prüflast 2 (16h) 84% (kg) **test load 2**	84% 4872,0	84% 3360,0	84% 3360,0	84% 3780,0	84% 1881,6	184% 1428,0
Prüflast 3 (24h) 101% (kg) **test load 3**	101% 5858,0	101% 4040,0	101% 4040,0	101% 4545,0	101% 2262,4	201% 1717,0
Laufflächen-, Lagen-, Kordablösungen; **Stollenausbrüche; Kordbruch** **tread-, ply-, cord separation; chunking;** **breaking cord**	-	-	-	-	-	-
Differenz des Außendurchmessers **vor und nach dem Test (%)** **difference of outer diameter before and after testing**	0,33	0,23	0,22	0,23	0,15	0,20
Bewertung des Reifens **judgement of the tyre**	ok	ok	ok	ok	ok	ok

2.7.3 Bemerkungen: keine
remarks: none

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3. Anlagen :
enclosures:

Die Profilabbildungen der einzelnen Prüfreifen befinden sich in dem Prüfbericht in der Anlage.
The profile images of the individual test tires can be found in the test report in the annex.

4. Schlussbescheinigung:
statement of conformity:

Die geprüften, runderneuerten Reifen entsprechen den im Prüfbericht genannten technischen Angaben und sind repräsentativ für die Reifenbaureihe. Die Anforderungen der ECE-Regelung 109 werden erfüllt.
The tested, retreaded tyre corresponds to the technical data specified in the test report.
The requirements of the ECE regulation 109 are fulfilled.

Dieser Prüfbericht umfasst die Seiten 1 bis 7.
This test report encosures pages 1 to 7.

Dieser Prüfbericht darf nur vom Auftraggeber und nur in vollem Wortlaut vervielfältigt und weitergegeben werden.
Eine auszugsweise Vervielfältigung und Veröffentlichung des Prüfberichtes ist nur nach schriftlicher Genehmigung des Prüflaboratoriums zulässig.
The test report shall be reproduced and published by the client, only with the same tenor.
Duplication and publishing of the test report is allowed only by written permission of Prüflabor Nord GmbH

Grundgenehmigung
Basic approval

R109 E1*109R00/12*0578*00

Anlage 1: Profilabbildung
Annex 1: Picture of the pattern

Test Laboratory

benannt von der Benennungsstelle des Kraftfahrt-Bundesamtes,
designation by the Designation authority of Kraftfahrt-Bundesamt,
Bundesrepublik Deutschland
Federal Republic of Germany

Ort/Location: **Brokstedt** **Datum/Date:** **23.06.2026**

Unterschrift
signature

Dipl.-Ing. F.Kuchel

Ende des Prüfberichtes

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Profilabbildungen
Pictures of the pattern

Kalterneuerung
cold procedure

L26017
cold procedure
445/65 R22,5
M+S - tyre
Profile: R 168+ - 330 mm



L26018
cold procedure
315/80 R22,5
M+S - tyre
Profile: ADT - 250 mm



L26019
cold procedure
315/70 R22,5
M+S - tyre
Profile: H-DRIVE 002 - 280 mm



L26020
cold procedure
385/55 R22,5
normal - tyre / FRT
Profile: STW13 - 320 mm



L26021
cold procedure
245/70 R19,5
M+S - tyre
Profile: APR - 200 mm



L26022
cold procedure
215/75 R17,5
M+S - tyre
Profile: PRO WINTER 2 - 190 mm



C. Kleingarn

Christopher Kleingarn
Freigabe / Prüftechniker 23.06.2026

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PN, ECE-109 R. Revision 12/26 This report including its data and any parts cannot be mutliplied without agreement of Prüflabor Nord GmbH

Prüfb. Nr.: **PN PW-26001** Blatt 1/1 Anlagen 5 **E1 ECE-R. 109 - AB**	Prüflaboratorium: Prüflabor Nord GmbH Groß Floyen 14 24616 Brokstedt	**Prüfbericht** **Pneuworld GmbH**

KBA
Benannter TD
KBA-P 00038

Prüfbericht für runderneuerte Reifen
hinsichtlich der Fahreigenschaften auf Schnee
nach der ECE -109 Regelung, Anhang 10

Technischer Dienst / Prüflabor: Technical Service:		Prüflabor Nord GmbH
Name und Anschrift des Runderneuerers / Herstellers: Name and address of the retreading company / manufacturer:		Pneuworld GmbH Donaustr. 101 D - 90451 Nürnberg
Name und Anschrift der Fertigungsstätte (n): Name and address of the production plant (s):		Pneuworld GmbH Donaustr. 101 D - 90451 Nürnberg
Fabrikmarke: Trade mark:		Galgo
Reifen Klasse: Tyre class		C3 LKW - Reifen
Reifenbauart: Categorie of use:		3PMSF - Reifen Radialreifen
Gutachten Testreport Snow - Grip - Index:		PN SG GA - 2501 - WRD25 PN SG GA - 2502 - NRD20 PN SG GA - 26001 - LHT20.5 PN SG GA - 26002 - WHL20.5 PN SG GA - 26003 - BUS20
Runderneuerungsverfahren: procedure of retreading:		Kaltverfahren
Testgelände: Test Location:		NAF - Välerbanen / Norwegen
Zeitraum der Prüfungen: Date of testing:		13.01.- 24.01.2025 19.01.- 29.01.2026
Bemerkungen zum Prüfverfahren: Comments of testing:		3PMSF

Schlussbescheinigung:

Das Prüfverfahren (Beschleunigungsmessung) wurde konform der Regelung ECE 109 Anhang 10 durchgeführt.
Vor den Messungen wurden die Reifen mindestens 100 km eingefahren und die Konditionierungszeit von mindestens 2 Stunde, sowie die vorgegebenen Temperaturen wurden eingehalten. Es wurden je 6 Beschleunigungsfahrten, von 10 bis 25 km/h, an zwei differenten Tagen gemessen.
Die Messstrecke entspricht den Anforderungen der ASTM 1802-12.
Die Messungen der Kandidatenreifen wurden mit dem Referenzreifen SRTT F2870 verglichen und ausgewertet.
Die Anforderungen der ECE 109 R. Anhang 10 wurden von den geprüften Reifen erfüllt.
Das hier vorgelegte Gutachten behandelt zusammenfassend und vollständig den Umfang der Typprüfung einschließlich der Dokumentation und ist repräsentativ für den Gesamtumfang der Typgenehmigung.
Anlagen: Prüfgutachten (Anlage 1 - 5)

Verteiler: Prüflaboratorium
Hersteller (1 Gutachten)

(Stempel)

Prüflabor Nord GmbH
Groß Floyen 14
24616 Brokstedt
Reg.-Nr. KBA-P 00038

Brokstedt, den 23.06.2026

Dipl.-Ing. F.Kuchel

Ende des Prüfberichtes

Dieser Antrag einschließlich seiner Angaben darf ohne Zustimmung der Prüflabor Nord GmbH nicht und auch nicht auszugweise vervielfältig werden.

R109 E1*109R00/12*0578*00

SNOW GRIP INDEX MEASUREMENTS FOR C3 TIRES

Acceleration - Test ECE R. 109 Supplement 12 Annex 10

REPORT DETAILS

Test report No. **PN SG GA - 2501**	
Type Approval Authority / Technical Service:	Prüflabor Nord GmbH Groß Floyen 14 24616 Brokstedt
Name and address of applicant:	INDUSTRIAS DE HULE GALGO, S.A. DE C.V. SAN FRANCISCO 1542 03100 COL.DEL VALLE, DEL. BENITO JUAREZ
MA. Test Report N.:	GA - 2501
Manufacturer and brand name / Trade description:	WRD25
Tire class:	C3
Category of use:	Snow
Snow Index relative to SRTT according to paragraph 7.2.1:	SG: 1,62
Test procedure and SRTT used:	Acceleration test 315/70 R 22,5

R109 E1*109R00/12*0578*00

TEST FIELD

Date of test:	**13.01.2025 - 24.01.2025**
Location of test track:	**NAF- Välerbanen / Track no. 3**
Test track characteristics:	

		Day 1	T.-Sensor	Day 2	T. Sensor	Specification
Weather		**Cloudy**		**Cloudy**		**-**
Ambient temperature [°C]		**- 5° - 6°**	**P044**	**- 4° - 6°**	**P044**	**- 2°C to - 15°C**
Snow temperature [°C]		**- 8° - 9°**	**P043**	**- 7° - 8°**	**P043**	**- 4°C to - 15°C**
CTI index [ ]		**82 - 84**	**P036**	**84 - 86**	**P036**	**80 to 90**
Other		-		-		-

SNOW GRIP INDEX MEASUREMENTS FOR C3 TIRES

Acceleration - Test ECE R. 109 Supplement 12 Annex 10

TEST VEHICLE

Tire conditioning run in	> 2 h OK	Test vehicle (make, model and type, year):		Mercedes Actros 18 - 480	2024
SRTT storage	OK	Test tire details:		315/70 R22,5 Radial 154 L	
Tire trimming	OK	Tire size designation and service description:		WRD25 - 260 mm	
Tire run in	> 100 km	Tire brand and trade description:		Tire ident. no. left.:	44/24
Measurement	P010 Acceral. Sens./ P043 Temp.-Sens./ P036 Penetrometer / P016 V. Scales			Tire ident. no. right:	43/24
Tire Conditions	> 2 h OK	Start Speed [km/h]		10	2,78 m/s
Tire run M - Systems	Kistler L350 Accel. Sens.	Final Speed [km/h]	Kistler SMS AVG	25	6,94 m/s

	SRTT (1st test)	Candidate	SRTT (2nd test)
	Front & Rear	Rear	Front & Rear
Tire dimension	315/70 R22.5 MICHELIN - F2870-16	315/70 R22.5 WRD25 - 260 mm	315/70 R22.5 MICHELIN - F2870-16
Test rim width code	22,5 x 9.00	22,5 x 9,00	22,5 x 9.00
Tire loads F/R (kg)	154 / 3750	154 / 3750	154 / 3750
Load index F/R (%)	FR151% F73% 2730 / R51% 1930	FR143% F74% 2730 / R51% 1930	FR151% F73% 2730 / R51% 1930
Tire pressure (kPa)	630	630	630

ASTM : SRTT Tire F2870 -16

Standard **R**eference **T**est **T**ire

315/70 R 22,5 154/150L Radial
Tire Ident. No. : NLU 12232R 21/23
Tire Ident. No. : NLU 12344L 21/23

SRTT tire	Candidate tire	Profile	
F2870 - 16	**WRD25 - 260 mm**	**cold procedure**	Rigdon





Profiledepth:	**17,7 mm**
Profilewidth:	**245 mm**
Circumference:	**3225 mm**
Materialspecification	
Quality - Code:	-
ShA - Hardness:	**70° - 71°**

R109 E1*109R00/12*0578*00

PN SG GA - 2501

SNOW GRIP INDEX MEASUREMENTS FOR C3 TIRES

Acceleration - Test ECE R. 109 Supplement 12 Annex 10

Test results: mean fully developed acceleration (m/s²) / traction coefficient

Run number Day 1	Test Specification	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)
1	Measurements	29,66	26,67	0,683	17,93	23,56	1,130	28,45	27,50	0,712
2		28,45	28,51	0,712	18,15	24,60	1,116	29,55	28,37	0,685
3		28,02	27,30	0,723	18,83	22,90	1,076	28,79	26,30	0,704
4		27,89	28,10	0,726	17,63	23,54	1,149	28,64	27,61	0,707
5		29,06	25,88	0,697	17,74	24,87	1,142	27,39	25,49	0,739
6		28,37	26,80	0,714	16,93	21,99	1,196	29,47	26,10	0,687
		SRTT			Candidate			SRTT		
Mean	-	28,58		0,709	17,87		1,135	28,72		0,706
Std-deviation	-	0,670		0,016	0,626		0,040	0,788		0,020
CV a Coefficient of variation [%]	≤ 6%	2,346		2,315	3,505		3,507	2,744		2,789
Cval a Validation SRTT [%]	≤ 5%							-0,488		0,471
SRTT average [m/s2]	-		0,707							
Snow Grip Index (SG)	-		1,00		1,60		1,60		1,00	

Run number Day 2	Test Specification	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)
1	Measurements	29,73	26,88	0,681	17,55	23,22	1,154	28,15	27,88	0,720
2		28,77	27,54	0,704	18,04	24,12	1,123	27,61	27,02	0,734
3		29,88	28,77	0,678	17,76	23,46	1,140	28,89	28,65	0,701
4		28,26	28,32	0,717	16,95	22,71	1,195	29,64	26,74	0,683
5		29,32	29,67	0,691	18,19	23,02	1,114	27,56	28,67	0,735
6		27,54	27,56	0,735	17,32	25,31	1,169	30,64	30,25	0,661
		SRTT			Candidate			SRTT		
Mean	-	28,92		0,701	17,64		1,149	28,75		0,706
Std-deviation	-	0,906		0,022	0,461		0,030	1,221		0,029
CV a Coefficient of variation [%]	≤ 6%	3,132		3,172	2,615		2,633	4,249		4,174
Cval a Validation SRTT [%]	≤ 5%							0,586		0,647
SRTT average [m/s2]	-		0,703							
Snow Grip Index (SG)	-		1,00		1,63		1,63		1,00	

R109_E1*109R00/12*0578*00

SNOW GRIP INDEX MEASUREMENTS FOR C3 TIRES

Acceleration - Test ECE R. 109 Supplement 12 Annex 10

		SRTT			Candidate			SRTT		
Mean Day 1	-	28,58		0,71	17,87		1,13	28,72		0,71
Mean Day 2	-	28,92		0,70	17,64		1,15	28,75		0,71
Std-deviation	-	0,788		0,019	0,544		0,035	1,005		0,025
CV a Coefficient of variation [%]	≤ 6%	2,758		2,725	3,043		3,087	3,499		3,481
Cval a Validation SRTT [%]	≤ 6%							0,049		0,559
SRTT average [m/s2]	-	0,705			3,24					
Snow Grip Index (SG)	-	1,00			1,62		1,62	1,00		

Footprint:



Certificate of conclusion: **The tests were carried out in accordance with the UN ECE 109 R. Annex 10 Snow performance test. Level pursuant Annex 10 of UN ECE R. 109 Supplement 12 for the tire series. The examined retreaded tire corresponds to the technical data specified in the report and is representative. The tests were carried out in accordance with the relevant requirements of DIN EN ISO/IEC 17025:2018. This test report consists of pages 1 to 4.**

Statements of conformity: **Decision rule according to customer requirements: Rule point "D". The conformity assessment is carried out without taking measurement uncertainty into account, this means that the requirements are met if the measurement result is less than or equal to the tolerance limit. The tolerances are specified in the relevant ECE regulations, the ASTM and the ETRTO and are specified in the assessment is taken as a basis.**

This report including its data and also parts of it can't be multiplied without agreement of Prüflabor Nord GmbH.

Snow Grip Index: SG **1,62**

3PMSF

Distributor: **Test - Laboratory**

Manufacturer **(1 report)**

Limit Value : SG **> 1,25**

Stamp:

Prüflabor Nord GmbH
Groß Floyen 14
24616 Brokstedt
Reg.-Nr. KBA-P 00038-2000

DAkkS Deutsche Akkreditierungsstelle D-PL-21532-01-00

Dipl.-Ing. F.Kuchel

Brokstedt, 04.02.2025

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Erstellt: 09.12.2023 vom QMB
Revision: 2 vom 05.01.2024
Freigabe: 06.01.2024 durch LL

PN SG GA - 2501

end of report

R109 E1*109R00/12*0578*00

SNOW GRIP INDEX MEASUREMENTS FOR C3 TIRES

Acceleration - Test ECE R. 109 Supplement 12 Annex 10

REPORT DETAILS

Test report No. **PN SG GA - 2502**	
Type Approval Authority / Technical Service:	Prüflabor Nord GmbH Groß Floyen 14 24616 Brokstedt
Name and address of applicant:	INDUSTRIAS DE HULE GALGO, S.A. DE C.V. SAN FRANCISCO 1542 03100 COL.DEL VALLE, DEL. BENITO JUAREZ
MA. Test Report N.:	GA - 2502
Manufacturer and brand name / Trade description:	NRD20
Tire class:	C3
Category of use:	Snow
Snow Index relative to SRTT according to paragraph 7.2.1:	SG: 1,82
Test procedure and SRTT used:	Acceleration test 315/70 R 22,5

R109 E1*109R00/12*0578*00

TEST FIELD

Date of test:	**13.01.2025 - 24.01.2025**
Location of test track:	**NAF- Välerbanen / Track no. 3**
Test track characteristics:	

		Day 1	T.-Sensor	Day 2	T. Sensor	Specification
Weather		**Cloudy**		**Cloudy**		**-**
Ambient temperature [°C]		**- 5° - 6°**	**P044**	**- 4° - 6°**	**P044**	**- 2°C to - 15°C**
Snow temperature [°C]		**- 8° - 9°**	**P043**	**- 7° - 8°**	**P043**	**- 4°C to - 15°C**
CTI index [ ]		**82 - 84**	**P036**	**84 - 86**	**P036**	**80 to 90**
Other		-		-		-

SNOW GRIP INDEX MEASUREMENTS FOR C3 TIRES

Acceleration - Test ECE R. 109 Supplement 12 Annex 10

TEST VEHICLE

Tire conditioning run in	> 2 h OK	Test vehicle (make, model and type, year):		Mercedes Actros 18 - 480 2024	
SRTT storage	OK	Test tire details:		315/70 R22,5 Radial 154 L	
Tire trimming	OK	Tire size designation and service description:		NRD20 - 260 mm	
Tire run in	> 100 km	Tire brand and trade description:		Tire ident. no. left.: 44/24	
Measurement	P010 Acceral. Sens./ P043 Temp.-Sens./ P036 Penetrometer / P016 V. Scales			Tire ident. no. right: 43/24	
Tire Conditions	> 2 h OK	Start Speed [km/h]		10	2,78 m/s
Tire run M - Systems	Kistler L350 Accel. Sens.	Final Speed [km/h]	Kistler SMS AVG	25	6,94 m/s

	SRTT (1st test)	Candidate	SRTT (2nd test)
	Front & Rear	Rear	Front & Rear
Tire dimension	315/70 R22.5 MICHELIN - F2870-16	315/70 R22.5 NRD20 - 260 mm	315/70 R22.5 MICHELIN - F2870-16
Test rim width code	22,5 x 9.00	22,5 x 9,00	22,5 x 9.00
Tire loads F/R (kg)	154 / 3750	154 / 3750	154 / 3750
Load index F/R (%)	FR151% F73% 2730 / R51% 1930	FR143% F74% 2730 / R51% 1930	FR151% F73% 2730 / R51% 1930
Tire pressure (kPa)	630	630	630

ASTM : SRTT Tire F2870 -16

Standard **R**eference **T**est **T**ire

315/70 R 22,5 154/150L Radial
Tire Ident. No. : NLU 12232R 21/23
Tire Ident. No. : NLU 12344L 21/23

SRTT tire	Candidate tire	Profile	
F2870 - 16	**NRD20 - 260 mm**	**cold procedure**	Rigdon





Profiledepth:	**19,5 mm**
Profilewidth:	**245 mm**
Circumference:	**3224 mm**
Materialspecification	
Quality - Code:	-
ShA - Hardness:	**70° - 71°**

R109_E1*109R00/12*0578*00

PN SG GA - 2502

SNOW GRIP INDEX MEASUREMENTS FOR C3 TIRES

Acceleration - Test ECE R. 109 Supplement 12 Annex 10

Test results: mean fully developed acceleration (m/s²) / traction coefficient

Run number Day 1	Test Specification	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)
1	Measurements	29,66	26,67	0,683	14,99	24,56	1,351	28,45	27,50	0,712
2		28,45	28,51	0,712	15,67	25,20	1,293	29,55	28,37	0,685
3		28,02	27,30	0,723	15,76	26,41	1,285	28,79	26,30	0,704
4		27,89	28,10	0,726	16,65	23,45	1,216	28,64	27,61	0,707
5		29,06	25,88	0,697	15,46	23,67	1,310	27,39	25,49	0,739
6		28,37	26,80	0,714	15,88	25,47	1,275	29,47	26,10	0,687
		SRTT			Candidate			SRTT		
Mean	-	28,58		0,709	15,74		1,289	28,72		0,706
Std-deviation	-	0,670		0,016	0,547		0,044	0,788		0,020
CV a Coefficient of variation [%]	≤ 6%	2,346		2,315	3,474		3,433	2,744		2,789
Cval a Validation SRTT [%]	≤ 5%							-0,488		0,471
SRTT average [m/s2]	-		0,707							
Snow Grip Index (SG)	-		1,00		1,82		1,82		1,00	

Run number Day 2	Test Specification	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)
1	Measurements	29,73	26,88	0,681	15,66	25,14	1,293	28,15	27,88	0,720
2		28,77	27,54	0,704	16,45	23,88	1,231	27,61	27,02	0,734
3		29,88	28,77	0,678	15,35	25,46	1,320	28,89	28,65	0,701
4		28,26	28,32	0,717	15,78	25,47	1,284	29,64	26,74	0,683
5		29,32	29,67	0,691	16,49	24,84	1,228	27,56	28,67	0,735
6		27,54	27,56	0,735	15,36	23,84	1,319	29,87	30,25	0,678
		SRTT			Candidate			SRTT		
Mean	-	28,92		0,701	15,85		1,279	28,62		0,708
Std-deviation	-	0,906		0,022	0,510		0,041	1,004		0,025
CV a Coefficient of variation [%]	≤ 6%	3,132		3,172	3,218		3,183	3,508		3,493
Cval a Validation SRTT [%]	≤ 5%							1,037		1,045
SRTT average [m/s2]	-		0,705							
Snow Grip Index (SG)	-		1,00		1,82		1,82		1,00	

R109_E1*109R00/12*0578*00

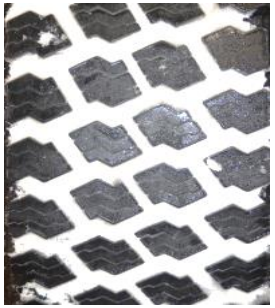
SNOW GRIP INDEX MEASUREMENTS FOR C3 TIRES

Acceleration - Test ECE R. 109 Supplement 12 Annex 10

		SRTT			Candidate			SRTT		
Mean Day 1	-	28,58		0,71	15,74		1,29	28,72		0,71
Mean Day 2	-	28,92		0,70	15,85		1,28	28,62		0,71
Std-deviation	-	0,788		0,019	0,528		0,042	0,896		0,022
CV a Coefficient of variation [%]	≤ 6%	2,758		2,725	3,358		3,296	3,120		3,147
Cval a Validation SRTT [%]	≤ 6%							0,275		0,758
SRTT average [m/s2]	-	0,706			3,64					
Snow Grip Index (SG)	-	1,00			1,82		1,82	1,00		

Footprint:

--------- 245 mm --------



236 mm

R109 E1*109R00/12*0578*00

Certificate of conclusion: **The tests were carried out in accordance with the UN ECE 109 R. Annex 10 Snow performance test. Level pursuant Annex 10 of UN ECE R. 109 Supplement 12 for the tire series. The examined retreaded tire corresponds to the technical data specified in the report and is representative. The tests were carried out in accordance with the relevant requirements of DIN EN ISO/IEC 17025:2018. This test report consists of pages 1 to 4.**

Statements of conformity: **Decision rule according to customer requirements: Rule point "D". The conformity assessment is carried out without taking measurement uncertainty into account, this means that the requirements are met if the measurement result is less than or equal to the tolerance limit. The tolerances are specified in the relevant ECE regulations, the ASTM and the ETRTO and are specified in the assessment is taken as a basis.**

This report including its data and also parts of it can't be multiplied without agreement of Prüflabor Nord GmbH.

Snow Grip Index: SG **1,82**

Limit Value : SG **> 1,25**

3PMSF

Distributor: **Test - Laboratory**

Manufacturer **(1 report)**

Stamp:

Prüflabor Nord GmbH
Groß Floyen 14
24616 Brokstedt
Reg.-Nr. KBA-P 00038-2000

DAkkS Deutsche Akkreditierungsstelle D-PL-21532-01-00

Dipl.-Ing. F.Kuchel

Brokstedt, 04.02.2025

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Erstellt: 09.12.2023 vom QMB
Revision: 2 vom 05.01.2024
Freigabe: 06.01.2024 durch LL

PN SG GA - 2502

end of report

SNOW GRIP INDEX MEASUREMENTS FOR C3 TIRES

Acceleration - Test ECE R. 109 ÄS 01 Supplement 12 Annex 10

REPORT DETAILS

Test report No. **PN SG GA - 26001**	
Type Approval Authority / Technical Service:	Prüflabor Nord GmbH Groß Floyen 14 24616 Brokstedt
Name and address of applicant:	INDUSTRIAS DE HULE GALGO, S.A. DE C.V. SAN FRANCISCO 1542 03100 COL.DEL VALLE, DEL. BENITO JUAREZ
MA. Test Report N.:	GA - 26001
Manufacturer and brand name / Trade description:	LHT20.5
Tire class:	C3
Category of use:	Snow
Snow Index relative to SRTT according to paragraph 7.2.1:	SG: 1,57
Test procedure and SRTT used:	Acceleration test 315/70 R 22,5

R109 E1*109R00/12*0578*00

TEST FIELD

Date of test:	**19.01.2026 - 29.01.2026**
Location of test track:	**NAF- Välerbanen / Track no. 2**
Test track characteristics:	

		Day 1	T.-Sensor	Day 2	T. Sensor	Specification
Weather		**Cloudy**		**Cloudy**		**-**
Ambient temperature [°C]		**- 4° - 5°**	**P044**	**- 4° - 5°**	**P044**	**- 2°C to - 15°C**
Snow temperature [°C]		**- 5° - 6°**	**P043**	**- 6° - 7°**	**P043**	**- 4°C to - 15°C**
CTI index [ ]		**85 - 87**	**P036**	**86 - 88**	**P036**	**80 to 90**
Other		-		-		-

SNOW GRIP INDEX MEASUREMENTS FOR C3 TIRES

Acceleration - Test ECE R. 109 ÄS 01 Supplement 12 Annex 10

TEST VEHICLE

Tire conditioning run in	> 2 h OK	Test vehicle (make, model and type, year):	Mercedes Actros 18 - 480 2024
SRTT storage	OK	Tire size designation and service description:	315/80 R22,5 156 K
Tire trimming	OK	Test tire details:	LHT20.5 M+S / 3PMSF
Tire run in	> 100 km	Tire brand and trade description:	Tire ident. no. left.: 45 / 25
Measurement	P010 Acceral. Sens./ P043 Temp.-Sens./ P036 Penetrometer / P016 V. Scales		Tire ident. no. right: 45 / 25
Tire Conditions	> 2 h OK	Start Speed [km/h]	10 2,78 m/s
Tire run M - Systems	Kistler L350 Accel. Sens.	Final Speed [km/h] Kistler SMS AVG	25 6,94 m/s

	SRTT (1st test)	Candidate	SRTT (2nd test)
	Front & Rear	Rear	Front & Rear
Tire dimension	315/70 R22.5 MICHELIN - F2870-16	315/80 R22,5 LHT20.5	315/70 R22.5 MICHELIN - F2870-16
Test rim width code	22,5 x 9.00	22,5 x 9,00	22,5 x 9.00
Tire loads F/R (kg)	154 / 3750	156 / 4000	154 / 3750
Load index F/R (%)	FR141% F72% 2718 / R52% 1934	FR141% F72% 2718 / R48% 1934	FR141% F72% 2718 / R52% 1934
Tire pressure (kPa)	630	595	630

ASTM : SRTT Tire F2870 -16

Standard **R**eference **T**est **T**ire

315/70 R 22,5 154/150L Radial
Tire Ident. No. : NLU 12355R 41/24
Tire Ident. No. : NLU 12356L 41/24

SRTT tire
F2870 - 16



Candidate tire
LHT20.5



Profile

cold procedure RIGDON

Profiledepth:	**20,5 mm**
Profilewidth:	**235 mm**
Circumference:	**3430 mm**
Materialspecification	
Quality - Code:	-
ShA - Hardness:	**71-72 °**

R109_E1*109R00/12*0578*00

PN SG GA - 26001

SNOW GRIP INDEX MEASUREMENTS FOR C3 TIRES

Acceleration - Test ECE R. 109 ÄS 01 Supplement 12 Annex 10

Test results: mean fully developed accelerations (m/s²) / traction coefficient

Run number Day 1	Test Specification	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)
1	Measurements	26,85	27%	0,75	17,90	21%	1,13	27,88	27%	0,73
2		27,14	28%	0,75	17,40	21%	1,16	28,11	28%	0,72
3		27,62	28%	0,73	18,10	22%	1,12	26,96	27%	0,75
4		27,73	28%	0,73	17,68	21%	1,15	27,34	28%	0,74
5		26,99	27%	0,75	17,51	22%	1,16	27,50	27%	0,74
6		27,91	27%	0,73	17,29	21%	1,17	27,29	28%	0,74
		SRTT			Candidate			SRTT		
Mean	-	27,37		0,740	17,65		1,15	27,51		0,736
Std-deviation	-	0,436		0,012	0,309		0,020	0,419		0,011
CV a Coefficient of variation [%]	≤ 6%	1,594		1,594	1,751		1,742	1,522		1,518
Cval a Validation SRTT [%]	≤ 5%							-0,509		0,513
SRTT average [m/s2]	-		0,738							
Snow Grip Index (SG)	-		1,00			1,56			1,00	

Run number Day 2	Test Specification	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)
1	Measurements	27,83	27%	0,73	18,50	22%	1,09	28,16	27%	0,72
2		27,69	27%	0,73	18,06	22%	1,12	28,72	28%	0,71
3		28,01	27%	0,72	17,87	21%	1,13	28,43	28%	0,71
4		28,44	28%	0,71	18,49	22%	1,10	27,95	28%	0,72
5		28,39	28%	0,71	17,45	21%	1,16	28,89	29%	0,70
6		28,75	27%	0,70	16,68	20%	1,21	28,66	28%	0,71
		SRTT			Candidate			SRTT		
Mean	-	28,19		0,719	17,84		1,14	28,47		0,712
Std-deviation	-	0,407		0,010	0,694		0,045	0,359		0,009
CV a Coefficient of variation [%]	≤ 6%	1,444		1,442	3,887		3,992	1,260		1,265
Cval a Validation SRTT [%]	≤ 5%							-0,995		1,009
SRTT average [m/s2]	-		0,715							
Snow Grip Index (SG)	-		1,00			1,59			1,00	

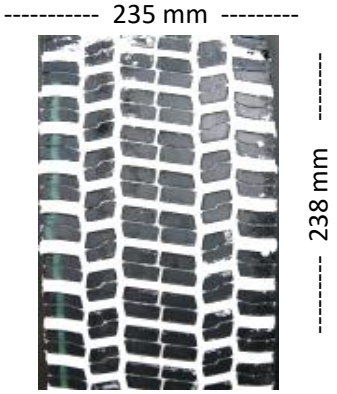
R109 E1*109R00/12*0578*00

SNOW GRIP INDEX MEASUREMENTS FOR C3 TIRES

Acceleration - Test ECE R. 109 ÄS 01 Supplement 12 Annex 10

		SRTT			Candidate			SRTT		
Mean Day 1	-	27,37		0,74	17,65		1,15	27,51		0,74
Mean Day 2	-	28,19		0,72	17,84		1,14	28,47		0,71
Std-deviation	-	0,422		0,011	0,501		0,033	0,389		0,010
CV a Coefficient of variation [%]	≤ 6%	1,540		1,497	2,841		2,847	1,413		1,370
Cval a Validation SRTT [%]	≤ 6%							-0,752		0,761
SRTT average [m/s2]	-	0,727								
Snow Grip Index (SG)	-	1,00			**1,57**			1,00		

Footprint:



Certificate of conclusion: **The tests were carried out in accordance with the UN ECE 109 R. Annex 10 Snow performance test. Level pursuant Annex 10 of UN ECE R. 109 Supplement 12 for the tire series. The examined retreaded tire corresponds to the technical data specified in the report and is representative. The tests were carried out in accordance with the relevant requirements of DIN EN ISO/IEC 17025:2018. This test report consists of pages 1 to 4.**

Statements of conformity: **Decision rule according to customer requirements: Rule point "D". The conformity assessment is carried out without taking measurement uncertainty into account, this means that the requirements are met if the measurement result is less than or equal to the tolerance limit. The tolerances are specified in the relevant ECE regulations, the ASTM and the ETRTO and are specified in the assessment is taken as a basis.**

This report including its data and also parts of it can't be multiplied without agreement of Prüflabor Nord GmbH.

Snow Grip Index: SG **1,57**

Distributor: **Test - Laboratory**
Manufacturer **(1 report)**

Limit Value : SG **> 1,25**

Stamp:

Prüflabor Nord GmbH
Groß Floyen 14
24616 Brokstedt
Reg.-Nr. KBA-P 00038

DAkkS Deutsche Akkreditierungsstelle D-PL-21532-01-00

Dipl.-Ing. F.Kuchel

Brokstedt, 20.02.2026

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Erstellt: 09.12.2023 vom QMB
Revision: 3 vom 14.01.2025
Freigabe: 15.01.2025 durch LL

end of report

PN SG GA - 26001

R109 E1*109R00/12*0578*00

SNOW GRIP INDEX MEASUREMENTS FOR C3 TIRES

Acceleration - Test ECE R. 109 ÄS 01 Supplement 12 Annex 10

REPORT DETAILS

Test report No. **PN SG GA - 26002**	
Type Approval Authority / Technical Service:	Prüflabor Nord GmbH Groß Floyen 14 24616 Brokstedt
Name and address of applicant:	INDUSTRIAS DE HULE GALGO, S.A. DE C.V. SAN FRANCISCO 1542 03100 COL.DEL VALLE, DEL. BENITO JUAREZ
MA. Test Report N.:	GA - 26002
Manufacturer and brand name / Trade description:	WHL20.5
Tire class:	C3
Category of use:	Snow
Snow Index relative to SRTT according to paragraph 7.2.1:	SG: 1,39
Test procedure and SRTT used:	Acceleration test 315/70 R 22,5

R109 E1*109R00/12*0578*00

TEST FIELD

Date of test:	**19.01.2026 - 29.01.2026**
Location of test track:	**NAF- Välerbanen / Track no. 2**
Test track characteristics:	

		Day 1	T.-Sensor	Day 2	T. Sensor	Specification
Weather		**Cloudy**		**Cloudy**		**-**
Ambient temperature [°C]		**- 4° - 5°**	**P044**	**- 4° - 5°**	**P044**	**- 2°C to - 15°C**
Snow temperature [°C]		**- 5° - 6°**	**P043**	**- 6° - 7°**	**P043**	**- 4°C to - 15°C**
CTI index [ ]		**85 - 87**	**P036**	**86 - 88**	**P036**	**80 to 90**
Other		-		-		-

SNOW GRIP INDEX MEASUREMENTS FOR C3 TIRES

Acceleration - Test ECE R. 109 ÄS 01 Supplement 12 Annex 10

TEST VEHICLE

Tire conditioning run in	> 2 h OK	Test vehicle (make, model and type, year):	Mercedes Actros 18 - 480	2024	
SRTT storage	OK	Tire size designation and service description:	315/80 R22,5	156 L	
Tire trimming	OK	Test tire details:	WHL20.5	M+S / 3PMSF	
Tire run in	> 100 km	Tire brand and trade description:	Tire ident. no. left.:	45 / 25	
Measurement	P010 Acceral. Sens./ P043 Temp.-Sens./ P036 Penetrometer / P016 V. Scales		Tire ident. no. right:	45 / 25	
Tire Conditions	> 2 h OK	Start Speed [km/h]	10	2,78 m/s	
Tire run M - Systems	Kistler L350 Accel. Sens.	Final Speed [km/h] Kistler SMS AVG	25	6,94 m/s	

	SRTT (1st test)	Candidate	SRTT (2nd test)
	Front & Rear	Rear	Front & Rear
Tire dimension	315/70 R22.5 MICHELIN - F2870-16	315/80 R22,5 WHL20.5	315/70 R22.5 MICHELIN - F2870-16
Test rim width code	22,5 x 9.00	22,5 x 9,00	22,5 x 9.00
Tire loads F/R (kg)	154 / 3750	156 / 4000	154 / 3750
Load index F/R (%)	FR141% F72% 2718 / R52% 1934	FR141% F72% 2718 / R48% 1934	FR141% F72% 2718 / R52% 1934
Tire pressure (kPa)	630	595	630

ASTM : SRTT Tire F2870 -16

Standard **R**eference **T**est **T**ire

315/70 R 22,5 154/150L Radial
Tire Ident. No. : NLU 12355R 41/24
Tire Ident. No. : NLU 12356L 41/24

SRTT tire
F2870 - 16



Candidate tire
WHL20.5



Profile

cold procedure RIGDON

Profiledepth:	**20,5 mm**
Profilewidth:	**238 mm**
Circumference:	**3430 mm**

Materialspecification
Quality - Code: -
ShA - Hardness: **71-72** °

R109_E1*109R00/12*0578*00

SNOW GRIP INDEX MEASUREMENTS FOR C3 TIRES

Acceleration - Test ECE R. 109 ÄS 01 Supplement 12 Annex 10

Test results: mean fully developed accelerations (m/s²) / traction coefficient

Run number Day 1	Test Specification	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)
1	Measurements	26,85	27%	0,75	19,79	21%	1,02	27,88	27%	0,73
2		27,14	28%	0,75	20,73	21%	0,98	28,11	28%	0,72
3		27,62	28%	0,73	19,76	22%	1,03	26,96	27%	0,75
4		27,73	28%	0,73	19,74	21%	1,03	27,34	28%	0,74
5		26,99	27%	0,75	19,35	22%	1,05	27,50	27%	0,74
6		27,91	27%	0,73	18,34	21%	1,10	27,29	28%	0,74
		SRTT			Candidate			SRTT		
Mean	-	27,37		0,740	19,62		1,03	27,51		0,736
Std-deviation	-	0,436		0,012	0,775		0,042	0,419		0,011
CV a Coefficient of variation [%]	≤ 6%	1,594		1,594	3,952		4,015	1,522		1,518
Cval a Validation SRTT [%]	≤ 5%							-0,509		0,513
SRTT average [m/s2]	-		0,738							
Snow Grip Index (SG)	-		1,00			1,40			1,00	

Run number Day 2	Test Specification	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)
1	Measurements	27,83	27%	0,73	21,11	23%	0,96	28,16	27%	0,72
2		27,69	27%	0,73	20,52	22%	0,99	28,72	28%	0,71
3		28,01	27%	0,72	20,38	22%	0,99	28,43	28%	0,71
4		28,44	28%	0,71	19,87	21%	1,02	27,95	28%	0,72
5		28,39	28%	0,71	20,16	21%	1,00	28,89	29%	0,70
6		28,75	27%	0,70	20,45	21%	0,99	28,66	28%	0,71
		SRTT			Candidate			SRTT		
Mean	-	28,19		0,719	20,42		0,99	28,47		0,712
Std-deviation	-	0,407		0,010	0,414		0,020	0,359		0,009
CV a Coefficient of variation [%]	≤ 6%	1,444		1,442	2,030		2,013	1,260		1,265
Cval a Validation SRTT [%]	≤ 5%							-0,995		1,009
SRTT average [m/s2]	-		0,715							
Snow Grip Index (SG)	-		1,00			1,39			1,00	

R109_E1*109R00/12*0578*00

SNOW GRIP INDEX MEASUREMENTS FOR C3 TIRES

Acceleration - Test ECE R. 109 ÄS 01 Supplement 12 Annex 10

		SRTT			Candidate			SRTT		
Mean Day 1	-	27,37		0,74	19,62		1,03	27,51		0,74
Mean Day 2	-	28,19		0,72	20,42		0,99	28,47		0,71
Std-deviation	-	0,422		0,011	0,595		0,031	0,389		0,010
CV a Coefficient of variation [%]	≤ 6%	1,540		1,497	3,032		2,974	1,413		1,370
Cval a Validation SRTT [%]	≤ 6%							-0,752		0,761
SRTT average [m/s2]	-	0,727								
Snow Grip Index (SG)	-	1,00			**1,39**			1,00		

Footprint:

---------- 238 mm ---------



235 mm

Certificate of conclusion: **The tests were carried out in accordance with the UN ECE 109 R. Annex 10 Snow performance test. Level pursuant Annex 10 of UN ECE R. 109 Supplement 12 for the tire series. The examined retreaded tire corresponds to the technical data specified in the report and is representative. The tests were carried out in accordance with the relevant requirements of DIN EN ISO/IEC 17025:2018. This test report consists of pages 1 to 4.**

Statements of conformity: **Decision rule according to customer requirements: Rule point "D". The conformity assessment is carried out without taking measurement uncertainty into account, this means that the requirements are met if the measurement result is less than or equal to the tolerance limit. The tolerances are specified in the relevant ECE regulations, the ASTM and the ETRTO and are specified in the assessment is taken as a basis.**

This report including its data and also parts of it can't be multiplied without agreement of Prüflabor Nord GmbH.

Snow Grip Index: SG **1,39**

Distributor: **Test - Laboratory**
Manufacturer **(1 report)**

Limit Value : SG **> 1,25**

Stamp:

Prüflabor Nord GmbH
Groß Floyen 14
24616 Brokstedt
Reg.-Nr. KBA-P 00038

DAkkS Deutsche Akkreditierungsstelle D-PL-21532-01-00

Dipl.-Ing. F.Kuchel

Brokstedt, 20.02.2026

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Erstellt: 09.12.2023 vom QMB
Revision: 3 vom 14.01.2025
Freigabe: 15.01.2025 durch LL

PN SG GA - 26002

end of report

R109 E1*109R00/12*0578*00

SNOW GRIP INDEX MEASUREMENTS FOR C3 TIRES

Acceleration - Test ECE R. 109 ÄS 01 Supplement 12 Annex 10

REPORT DETAILS

Test report No. **PN SG GA - 26003**	
Type Approval Authority / Technical Service:	Prüflabor Nord GmbH Groß Floyen 14 24616 Brokstedt
Name and address of applicant:	INDUSTRIAS DE HULE GALGO, S.A. DE C.V. SAN FRANCISCO 1542 03100 COL.DEL VALLE, DEL. BENITO JUAREZ
MA. Test Report N.:	GA - 26003
Manufacturer and brand name / Trade description:	BUS20
Tire class:	C3
Category of use:	Snow
Snow Index relative to SRTT according to paragraph 7.2.1:	SG: 1,45
Test procedure and SRTT used:	Acceleration test 315/70 R 22,5

R109 E1*109R00/12*0578*00

TEST FIELD

Date of test:	**19.01.2026 - 29.01.2026**
Location of test track:	**NAF- Välerbanen / Track no. 2**
Test track characteristics:	

		Day 1	T.-Sensor	Day 2	T. Sensor	Specification
Weather		**Cloudy**		**Cloudy**		**-**
Ambient temperature [°C]		**- 4° - 5°**	**P044**	**- 4° - 5°**	**P044**	**- 2°C to - 15°C**
Snow temperature [°C]		**- 5° - 6°**	**P043**	**- 6° - 7°**	**P043**	**- 4°C to - 15°C**
CTI index [ ]		**85 - 87**	**P036**	**86 - 88**	**P036**	**80 to 90**
Other		-		-		-

SNOW GRIP INDEX MEASUREMENTS FOR C3 TIRES

Acceleration - Test ECE R. 109 ÄS 01 Supplement 12 Annex 10

TEST VEHICLE

Tire conditioning run in	> 2 h OK	Test vehicle (make, model and type, year):		Mercedes Actros 18 - 480	2024
SRTT storage	OK	Tire size designation and service description:		275/70 R22,5	152 J
Tire trimming	OK	Test tire details:		BUS20	M+S / 3PMSF
Tire run in	> 100 km	Tire brand and trade description:		Tire ident. no. left.:	45 / 25
Measurement	P010 Acceral. Sens./ P043 Temp.-Sens./ P036 Penetrometer / P016 V. Scales			Tire ident. no. right:	45 / 25
Tire Conditions	> 2 h OK	Start Speed [km/h]		10	2,78 m/s
Tire run M - Systems	Kistler L350 Accel. Sens.	Final Speed [km/h]	Kistler SMS AVG	25	6,94 m/s

	SRTT (1st test)	Candidate	SRTT (2nd test)
	Front & Rear	Rear	Front & Rear
Tire dimension	315/70 R22.5 MICHELIN - F2870-16	275/70 R22,5 BUS20	315/70 R22.5 MICHELIN - F2870-16
Test rim width code	22,5 x 9.00	22,5 x 9,00	22,5 x 9.00
Tire loads F/R (kg)	154 / 3750	152 / 3550	154 / 3750
Load index F/R (%)	FR141% F72% 2718 / R52% 1934	FR141% F72% 2718 / R54% 1934	FR141% F72% 2718 / R52% 1934
Tire pressure (kPa)	630	630	630

ASTM : SRTT Tire F2870 -16

Standard **R**eference **T**est **T**ire

315/70 R 22,5 154/150L Radial
Tire Ident. No. : NLU 12355R 41/24
Tire Ident. No. : NLU 12356L 41/24

SRTT tire
F2870 - 16



Candidate tire
BUS20



Profile

cold procedure RIGDON

Profiledepth:	**20,0 mm**
Profilewidth:	**216 mm**
Circumference:	**3065 mm**

Materialspecification
Quality - Code: -
ShA - Hardness: **70-71** °

R109_E1*109R00/12*0578*00

SNOW GRIP INDEX MEASUREMENTS FOR C3 TIRES

Acceleration - Test ECE R. 109 ÄS 01 Supplement 12 Annex 10

Test results: mean fully developed accelerations (m/s²) / traction coefficient

Run number Day 1	Test Specification	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)
1	Measurements	26,85	27%	0,75	18,19	22%	1,11	27,88	27%	0,73
2		27,14	28%	0,75	19,01	22%	1,07	28,11	28%	0,72
3		27,62	28%	0,73	19,20	23%	1,05	26,96	27%	0,75
4		27,73	28%	0,73	18,66	22%	1,09	27,34	28%	0,74
5		26,99	27%	0,75	19,18	23%	1,06	27,50	27%	0,74
6		27,91	27%	0,73	19,36	23%	1,05	27,29	28%	0,74
		SRTT			Candidate			SRTT		
Mean	-	27,37		0,740	18,93		1,07	27,51		0,736
Std-deviation	-	0,436		0,012	0,435		0,025	0,419		0,011
CV a Coefficient of variation [%]	≤ 6%	1,594		1,594	2,299		2,341	1,522		1,518
Cval a Validation SRTT [%]	≤ 5%							-0,509		0,513
SRTT average [m/s2]	-		0,738							
Snow Grip Index (SG)	-		1,00			1,45			1,00	

Run number Day 2	Test Specification	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)	Traction distance (m)	AVG Skip Rate within 13 - 40 %	Average acceleration (m/s²)
1	Measurements	27,83	27%	0,73	19,57	23%	1,03	28,16	27%	0,72
2		27,69	27%	0,73	19,78	23%	1,02	28,72	28%	0,71
3		28,01	27%	0,72	20,10	23%	1,01	28,43	28%	0,71
4		28,44	28%	0,71	20,34	23%	1,00	27,95	28%	0,72
5		28,39	28%	0,71	18,84	22%	1,08	28,89	29%	0,70
6		28,75	27%	0,70	19,20	22%	1,05	28,66	28%	0,71
		SRTT			Candidate			SRTT		
Mean	-	28,19		0,719	19,64		1,03	28,47		0,712
Std-deviation	-	0,407		0,010	0,559		0,030	0,359		0,009
CV a Coefficient of variation [%]	≤ 6%	1,444		1,442	2,844		2,860	1,260		1,265
Cval a Validation SRTT [%]	≤ 5%							-0,995		1,009
SRTT average [m/s2]	-		0,715							
Snow Grip Index (SG)	-		1,00			1,44			1,00	

R109_E1*109R00/12*0578*00

SNOW GRIP INDEX MEASUREMENTS FOR C3 TIRES

Acceleration - Test ECE R. 109 ÄS 01 Supplement 12 Annex 10

		SRTT			Candidate			SRTT		
Mean Day 1	-	27,37		0,74	18,93		1,07	27,51		0,74
Mean Day 2	-	28,19		0,72	19,64		1,03	28,47		0,71
Std-deviation	-	0,422		0,011	0,497		0,027	0,389		0,010
CV a Coefficient of variation [%]	≤ 6%	1,540		1,497	2,624		2,550	1,413		1,370
Cval a Validation SRTT [%]	≤ 6%							-0,752		0,761
SRTT average [m/s2]	-	0,727								
Snow Grip Index (SG)	-	1,00			**1,45**			1,00		

Footprint:

---------- 216 mm ---------



---- 251 mm ----

Certificate of conclusion: **The tests were carried out in accordance with the UN ECE 109 R. Annex 10 Snow performance test. Level pursuant Annex 10 of UN ECE R. 109 Supplement 12 for the tire series. The examined retreaded tire corresponds to the technical data specified in the report and is representative. The tests were carried out in accordance with the relevant requirements of DIN EN ISO/IEC 17025:2018. This test report consists of pages 1 to 4.**

Statements of conformity: **Decision rule according to customer requirements: Rule point "D". The conformity assessment is carried out without taking measurement uncertainty into account, this means that the requirements are met if the measurement result is less than or equal to the tolerance limit. The tolerances are specified in the relevant ECE regulations, the ASTM and the ETRTO and are specified in the assessment is taken as a basis.**

This report including its data and also parts of it can't be multiplied without agreement of Prüflabor Nord GmbH.

Snow Grip Index: SG **1,45**

Distributor: **Test - Laboratory**

Manufacturer **(1 report)**

Limit Value : SG **> 1,25**

Stamp:

Prüflabor Nord GmbH
Groß Floyen 14
24616 Brokstedt
Reg.-Nr. KBA-P 00038

DAkkS Deutsche Akkreditierungsstelle D-PL-21532-01-00

Dipl.-Ing. F.Kuchel

Brokstedt, 20.02.2026

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Erstellt: 09.12.2023 vom QMB
Revision: 3 vom 14.01.2025
Freigabe: 15.01.2025 durch LL

end of report

PN SG GA - 26003

R109 E1*109R00/12*0578*00