



The Transportation Solution

nora® floor coverings made of rubber



nora®

Rubber – a fascinating material

The basic raw material

Rubber has several excellent qualities, e.g. the ability to resiliently withstand enormous loads. Rubber is thus used in products on which the highest demands are made, such as in car tyres, babies' dummies or special seals in industry. Rubber receives its resilient properties during processing. It remains resilient due to vulcanization and returns to its original form after deformation.

Highest performance

nora® floor coverings are extraordinarily durable and wear-resistant. Their extremely long life is considerably above the average of other resilient floor coverings. It is for this reason that rubber floor coverings are also used in highly frequented areas such as airports. A long life also means that resources are saved thanks to relatively less frequent modernisation and disposal.

Advantages in cleaning and care

The extremely dense and closed surface typical for nora® rubber floor coverings together with «nora cleanguard®» facilitates economic cleaning without the need for subsequent coatings.

These advantages also have a very positive effect on the price/benefit ratio, especially when it comes to longer periods of use.

Comfort and safety

nora® floor coverings are slip-resistant, pleasantly warm under foot, permanently resilient, and combine high

walking comfort and good footfall sound absorption (top values of up to 20 dB). They are resistant to cigarette burns, classified as flame-retardant and do not contain any PVC, plasticizers (phthalates) or halogens (e.g. chlorine). In case of fire, no hydrochloric gas is released which can lead to caustic burns of the respiratory tract and which might form hydrochloric acid when combined with fire fighting water.

nora® floor coverings also do not emit substances in harmful concentrations; therefore, they are safe for children, whose breathing zones are closer to the floor.

Special technical specifications

- electrostatically dissipative (dissipative floor covering)
- electrostatically conductive (conductive floor covering)
- suitable for fork lift trucks
- extremely impact-resistant
- extremely fire-resistant meeting following international railway standards:
 - DIN 5510-2 (SF3)
 - EN 45545 (HL 1, 2 + 3)
 - BS 6853:1999 (cat. 1a)
 - NFPA 130
 - NF-F 16-101 (M2/F1)
 - UIC 564-2/12 (class A)



Exemplary eco-compatibility



Certification
DIN EN ISO 14001



Certification
to ISO 9001

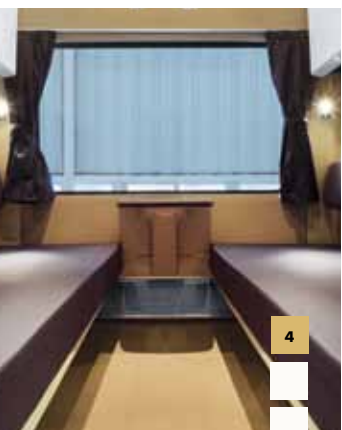
**Please request our detailed brochure
on the environmental compatibility
of our floor coverings.**

Rail Transportation



nora® rubber floor coverings and stairtreads have been successfully installed in major rail transit authorities worldwide, proving they are the ideal solution for:

- Light rail
- Rapid transit/commuter rail
- Heavy rail
- High speed rail
- Automated guideway transit
- Locomotives
- Platforms





Bus/Specialty Vehicles



nora®'s vast bus experience led to the development of a comprehensive bus/specialty vehicle flooring system with solutions for:

- Buses
- Recreational vehicles
- Special vehicles
- Vans for the disabled



Extreme durability, ease of maintenance and exceptional slip resistance, as well as numerous design options, make nora® rubber flooring the ideal solution for bus/specialty vehicles.





nora® Transportation Projects



nora[®] Transportation Projects

Metros/Subways

Project	Country	Manufacturer/ Customer	Year	nora [®] flooring
Amtrak Metro Liner	USA	Bombardier	1999	norament [®] 925
Athens	Greece	Rotem	2003	noraplan [®] stone
Berlin	Germany	BVG	1999	noraplan [®] stone
Brazil	Brazil	Rotem	2005	noraplan [®] stone
Brussels	Belgium	STIB/MIVB	2001	norament [®] 923
Brussels	Belgium	Bombardier	2002	norament [®] 923
Canada	Canada	Rotem	2006	noraplan [®] mega
City of Ankara	Turkey	Bombardier	1983	noraplan [®] vario
City of Montreal	Canada	Bombardier	2000	noraplan [®] stone
Daegu Line 2	Korea	Rotem	2004	noraplan [®] stone (931)
Iran	Iran	Rotem	2007	noraplan [®] stone (931)
Los Angeles Transit	USA	Bombardier	2001	norament [®] 825
Los Angeles Transit	USA	Rotem	2008	norament [®] 825
Malaysia	Malaysia	Rotem	2008	noraplan [®] plus
Metro Berlin	Germany	Bombardier	1987	noraplan [®] viva
Metro de Lyon	France	S.L.T.C	2001	noraplan [®] plus (931)
Metro Helsinki	Finland	Bombardier	2000	noraplan [®] mega
Metro Lisbon	Portugal	ADtranz	1998	norament [®] 923
Metro Munich	Germany	ADtranz	1999	noraplan [®] effect
Metro North	USA	Bombardier	1997	noraplan [®] vario
Metro Porto	Portugal	ADtranz	2001	noraplan [®] stone
Metro Shanghai	China	ADtranz	2000	noraplan [®] uni
Metro Taipei	Taiwan	Siemens	2003	noraplan [®] vario
New Jersey Transit	USA	A.A.I.	2000	noraplan [®] stone
New Jersey Transit	USA	Bombardier	2002	noraplan [®] vario
New York City Transit	USA	Kawasaki	2001	norament [®] 925 lago
New York City Transit	USA	NYCTA	2001	norament [®] 925 lago
New York City Transit	USA	Bombardier	2002	norament [®] 925 lago/norament [®] terrazzo
São Paulo	Brazil	Rotem	2008	noraplan [®] stone (931)
Seoul line 1, 2, 3 + 4	Korea	ROWIN	2005	noraplan [®] uni (931)
Seoul line 2	Korea	Rotem	2007	noraplan [®] stone/grip (931)
Seoul line 2, 3 + 4	Korea	Heung Il	2004	noraplan [®] uni (931)
Seoul line 5	Korea	SLS Heavy	2006	noraplan [®] stone (931)
Seoul line 5, 6 + 8	Korea	Heung Il	2005	noraplan [®] stone (931)
Seoul line 6, 7 + 8	Korea	Rotem	2004	noraplan [®] stone (931)
Seoul line 6, 7 + 8	Korea	Rotem	2005	noraplan [®] stone (931)
Seoul line 9	Korea	Rotem	2009	noraplan [®] stone (931)
Metro Cairo	Egypt	Kinki Sharyo	1992	norament [®] 921
Syrian Railway	Syria	Rotem	2005	noraplan [®] stone
MS 61	France	RATP	2005	noraplan [®] plus (931)
MF 67	France	RATP	2005	noraplan [®] plus (931)
MI 79	France	Alstom	2009	noraplan [®] plus (931)
Metro Oslo	Norway	Siemens	2005	noraplan [®] plus
Metro Melbourne	Australia	Siemens	2001	noraplan [®] stone (931)
Metro Beijing line 2	China	CRC	2006	noraplan [®] stone
Metro Beijing line 5	China	CRC	2005	noraplan [®] plus
Metro Beijing line 10	China	CRC	2006	noraplan [®] mega
Metro Shanghai line 4	China	Siemens	2004	noraplan [®] plus (931)
Metro Shanghai line 5	China	Alstom	2002	noraplan [®] plus (931)
Metro Vienna	Austria	Siemens	2004	noraplan [®] stone (931)
Shanghai Metro 2 Extension Line	China	Puzhen	2009	noraplan [®] stone (931)
Shanghai Metro line 13	China	Puzhen	2011	noraplan [®] plus
Tianjin Metro 2	China	Dalian	2009	noraplan [®] stone (931)
Wuhan Metro 1 Extension Line	China	Zhuzhou	2009	noraplan [®] stone
Wuhan Metro 2	China	Zhuzhou	2011	noraplan [®] stone
Shanghai Metro 11 Extension Line	China	Zhuzhou	2011	noraplan [®] stone
Kunming Metro	China	Zhuzhou	2011	noraplan [®] stone
Shanghai Metro line 1	China	Siemens	2001	norament [®] 925
Beijing Airport Line	China	Changke	2007	noraplan [®] grip
Beijing Olympics line	China	Changke	2007	noraplan [®] mega
Shanghai Metro line 12	China	CBRC	2011	noraplan [®] signa
Tianjin Metro 3	China	Qingdao Sifang	2009	noraplan [®] stone (931)
Metro Istanbul	Turkey	Alstom	2008	noraplan [®] stone
Metro Brussels	Belgium	CAF	2005	norament [®] 923 grano

nora® Transportation Projects

Light Rail Systems

Project	Country	Manufacturer/Customer	Year	nora® flooring
BR 642	Germany	Siemens	1999	noraplan® effect
Citadis Dublin	Ireland	Alstom	2001	noraplan® plus (931)
Citadis Kassel	Germany	Alstom	2007	noraplan® effect
Citadis Lyon	France	Alstom	1999	noraplan® plus (931)
Citadis Montpellier	France	Alstom	2002	noraplan® plus (931)
Citadis Orleans	France	Alstom	2001	noraplan® plus (931)
Citadis Valenciennes	France	Alstom	2000	noraplan® plus (931)
ET 422	Germany	Alstom	2008	noraplan® effect
ET 423	Germany	Alstom	2000	noraplan® effect
ET 474	Germany	Alstom	1995	noraplan® mega
Double-deck coaches	Germany	Bombardier	2004	noraplan® effect
LINT	Germany	Alstom	2001	noraplan® effect
LINT	Germany	Alstom	2002	noraplan® effect
Oberlandbahn	Germany	PFA	1997	noraplan® effect
S-Bahn Berlin, BR 481	Germany	ADtranz	1992	noraplan® viva
Tramway Berlin	Germany	ADtranz	1993	noraplan® stone
Tramway Bremen	Germany	Bombardier	2008	noraplan® stone
Tramway Dresden	Germany	Bombardier	1999	noraplan® stone
Tramway Essen	Germany	Bombardier	2001	noraplan® stone
Tramway Jena	Germany	Bombardier	2001	noraplan® stone
Tramway Krakow	Poland	Bombardier	2000	noraplan® stone
Tramway Munich	Germany	ADtranz	1989	noraplan® stone
Tramway Rhein-Neckar	Germany	Bombardier	2003	noraplan® stone
Tramway Brussels	Belgium	STIB/MIVB	1993	norament® 923 grano
Citadis Bordeaux	France	Alstom	2003	noraplan® plus (931)
Grenoble	France	Alstom	2006	noraplan® plus (931)
Le Mans	France	Alstom	2006	noraplan® stone (931)
Mulhouse	France	Alstom	2005	noraplan® stone (931)
Angers	France	Alstom	2007	noraplan® stone (931)
Reims	France	Alstom	2006	noraplan® stone (931)
Nice	France	Alstom	2007	noraplan® plus (931)
Strasbourg	France	Alstom	2005	noraplan® plus (931)
Algiers	Algeria	Alstom	2009	noraplan® stone (931)
Rabat	Morocco	Alstom	2009	noraplan® stone (931)
Constantine	Algeria	Alstom	2009	noraplan® stone (931)
Oran	Algeria	Alstom	2009	noraplan® stone (931)
Istanbul	Turkey	Alstom	2008	noraplan® stone (931)
Jerusalem	Israel	Alstom	2008	noraplan® plus (931)
Tenerife	Spain	Alstom	2005	noraplan® stone (931)
Tramway Brussels	Belgium	Bombardier	2005	noraplan® stone (931)
ULF Vienna	Austria	Siemens	2003	noraplan® stone (931)

nora® Transportation Projects


High Speed Trains

Project	Country	Manufacturer/Customer	Year	nora® flooring
Amtrak	USA	Bombardier	1999	norament® 925 grano
ICE 1-3	Germany	Alstom	1989	noraplan® stone
TGV	France	SNCF	1989	norament® 925 duo
Velaro China	China	Tangshan	2008	noraplan® grip
CRH 3	China	Tangshan & Changke	2010	noraplan® grip
CRH3 Wuhan-Guangzhou 350KM	China	Siemens Tangshan	2009	noraplan® grip
CRH3 EMU 350KM	China	Siemens Tangshan	2007	noraplan® grip
CHR2	China	Qingdao Sifang	2010	noraplan® grip
CRH1 EMU 799	China	Qingdao Bombardier Sifang	2010	noraplan® plus (931)
CRH1 EMU 200KM	China	Qingdao Bombardier Sifang	2006	noraplan® plus (931)
CRH1 EMU 797	China	Qingdao Bombardier Sifang	2008	noraplan® grip (931)
CRH1 EMU 796	China	Qingdao Bombardier Sifang	2008	noraplan® plus (931)
CRH1 EMU 798	China	Qingdao Bombardier Sifang	2011	noraplan® grip

Heavy Railways

Project	Country	Manufacturer/Customer	Year	nora® flooring
Regional Railways	Belgium			noraplan® stone
Chinese Railways	China	Alstom	2000	noraplan® plus (931)
Egyptian Railways	Egypt	Temoinsa	2002	noraplan® vario
Finnish Railways	Finland	Transtech		noraplan® stone
Finnish Railways	Finland	Alstom	2003	noraplan® plus/ norament® 921
TER X72500	France	Alstom	1998	noraplan® plus (931)
TER X73500	France	Alstom DDF	1999	noraplan® plus (931)
City Bahn refurbishment	Germany	PFA		noraplan® stone
Couchette coaches	Germany	PFA		noraplan® effect
Passenger coaches	Germany	PFA		noraplan® effect
Double-deck coaches	Germany	Bombardier		noraplan® effect
SGM III/SGM II	Netherlands	Bombardier	2002	noraplan® plus (931)
Gardemoen Train Oslo	Norway	ADtranz		noraplan® plus (931)
River Targus	Portugal	CAF/Alstom		noraplan® plus (931)
Class 142	UK	Hunslet Barclay		noraplan® plus (931)
Class 142	UK	Hunslet Barclay		noraplan® plus (931)
Class 150/1	UK	Hunslet Barclay		noraplan® plus (931)
Refurbishment 354	UK	Bombardier		noraplan® effect (931)
Superliner	USA	Several manufacturers		norament® 925
Cascades	USA	Talgo		norament® 925 grano/ norament® 925 lago
C-3	USA	Kawasaki		norament® 925 grano
MARC	USA	Kawasaki		norament® 925 lago
Comet IV	USA	Bombardier		noraplan® stone
Sound Transit	USA	Bombardier		norament® 925 lago
Transilien	France	SNCF	2007	noraplan® grip (931)
Tibet line	China	Bombardier	2004	noraplan® plus (931)
T25	China	Qingdao Bombardier Sifang	2001	noraplan® plus (931)
Taiwan railway	Taiwan	TRSC	2011	noraplan® eco/stone

Individual and creative floor design with nora® inlays

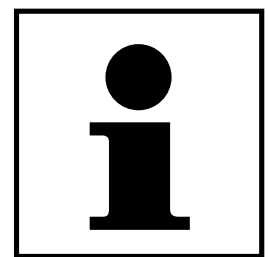
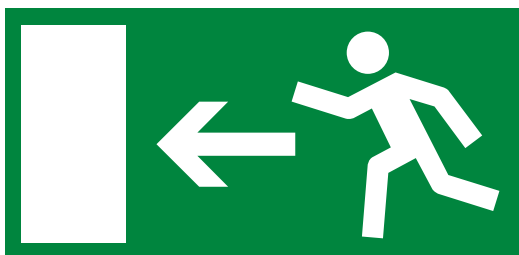
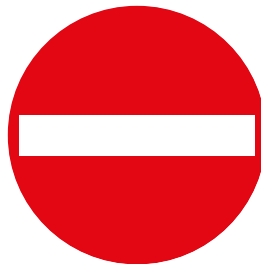
 Priority seating area
You are required to
move for seniors and
people with disabilities



On this page, you will see a number of already existing signs and symbols from our inlay design and cut centre.

Please visit our homepage www.nora.com for an interactive composition of other colour and design combinations.

The development and realisation of further motifs as well as the implementation of your individual creations are, of course, also part of our nora® service package.



nora[®] Rubber Floorings for Transportation Projects

Product information: noraplan[®] (mix 913)
 Designs: stone, signa and eco

noraplan[®] (mix 913) are single-layer rubber floor coverings available in rolls and tiles in the above-named designs.
 noraplan[®] stone has a mat, reflection-breaking, finely-structured surface. The designs signa and eco are available with a smooth, non-reflecting surface.

Technical data	Test method	Requirements	Average test results from running production
Properties acc. to EN 1817			
Thickness	EN ISO 24 346	Mean value \pm 0.15 mm of nominal value	2.0 mm
Dimensional stability	EN ISO 23 999	\pm 0.4 %	\pm 0.3%
Cigarette-burn resistance	EN 1399	Procedure A (stubbed out) \geq level 4 Procedure B (burning) \geq level 3	Fulfilled
Flexibility	EN ISO 24 344, procedure A	Mandrel diameter 20 mm, no fissuring	Fulfilled
Hardness	ISO 7619	\geq 75 Shore A	92 Shore A
Residual indentation	EN ISO 24 343	Mean value \leq 0.15 at thickness $<$ 2.5 Mean value \leq 0.20 at thickness \geq 2.5	0.05 mm
Abrasion resistance at 5 N load	ISO 4649, procedure A	\leq 250 mm ³	150 mm ³
Colour fastness to artificial light	ISO 105-B02, procedure 3, test conditions 6.1 a)	At least 6 on the blue scale, \geq 3 on the grey scale (= 350 MJ /m ²)	Grey scale \geq 3 acc. to ISO 105-A02

Additional technical data			
Weight	EN ISO 23 997		\sim 3.36 kg/m ²
Tear strength	ISO 34-1, method B, procedure A		28 N/mm
Slip resistance	DIN 51 130		R 9* (smooth surface) R 10* (finely-structured surface)
Improvement in footfall sound absorption	ISO 10 140-3		6 dB
Effect of chemicals	EN ISO 26 987	Depending on concentration and time of exposure	Resistant ^(A)
Electrostatic behaviour when being walked on	EN 1815		Antistatic, charging in case of rubber soles $<$ 2 kV

Fire behaviour/smoke behaviour		Fulfills the requirements	
Fire behaviour	BS 476, part 7		Class 2 fulfilled*
	CNTK/UIC-Codex 564-2/12		Class C*
	DIN 5510-2	Deutsche Bahn AG	SF3*
	EN 13501-1	Not bonded	C _f -s1*
	NT Fire 007		Class G*
	Directive 95/28/EG/ FMVSS/CMVSS 302		Fulfilled*
	EN 45 545		HL1
Fire behaviour	ASTM E-648/ISO 9239-1	Federal Railroad Administration	Class 1 (\geq 0.50 W/cm ²)*
Smoke density	ASTM E-662		After 1.5 minutes $<$ 100, after 4 minutes $<$ 200*
Fire behaviour	NF F 16-101 (NF P 92-501)	NF F 16-101 for grid 5/8	M2 on M0 substrate* M3 on M3 substrate*
Smoke density/Smoke toxicity	NF F 16-101 (NF X 10-702/X 70-100)		F3*
Smoke toxicity	Bombardier SMP 800-C		Fulfilled*
	BS 6853, annex B		R \leq 5 fulfilled*
	DIN 53 436		Carbonisation gases are non-toxic*
	ISO 5659-2	DIN 5510-2	FED \leq 1*
Classification in Hazard Level		CEN/TS 45545-2: 07:2009	HL1*
Fire behaviour, sea going vessels (surface flammability)	IMO Res. A.653(16)/ F.T.P. Code, part 5	IMO Res. MSC 61(67)	Fulfilled*
Smoke density and toxicity, sea going vessels	ISO 5659, part 2/ F.T.P. Code, part 2		
Oxygen index	ISO 4589		\sim 23%

Approvals		
Deutsche Bahn AG, Germany	Werkstoffleistungsblatt (material performance sheet)	✓
EC-Type Examination Certificate for use on board of sea going vessels in compliance with directive 96/98/EC	Modules B + D	✓
Japanese Government (JG) or use on board of sea going vessels	Modules B + D	✓
IMO Type Approvals for sea-going vessels by BG Verkehr and U. S. Coast Guard, DNV, NKK, Transport Canada and Russian Maritime Register of Shipping	IMO Res. MSC 61(67), annex 1, part 2 + 5	✓ (noraplan [®] eco only BG Verkehr and U. S. Coast Guard)

* Tested and certificated by an independent testing institute.

^(A) In case of increased impact of oils, greases, acids, alkalis and other aggressive chemicals as well as light oils and fuels - please contact us.

nora[®] Rubber Floorings for Transportation Projects

Product information: noraplan[®] mobil (mix 931)
Designs: stone and eco

noraplan[®] mobil (931) are single-layer rubber floor coverings for high performance with a smooth, sanded back.
noraplan[®] mobil (931) was specially developed for application in railways to meet their specific requirements and is extremely fire-resistant and halogen-free.

Technical data	Test method	Requirements	Average test results from running production
Properties acc. to EN 1817			
Thickness	EN ISO 24 346	Mean value \pm 0.15 mm of nominal value	2.0/2.5 mm
Dimensional stability	EN ISO 23 999	\pm 0.4 %	\pm 0.3%
Cigarette-burn resistance	EN 1399	Procedure A (stubbed out) \geq level 4 Procedure B (burning) \geq level 3	Fulfilled
Flexibility	EN ISO 24 344, procedure A	Mandrel diameter 20 mm, no fissuring	Fulfilled
Hardness	ISO 7619	\geq 75 Shore A	85 Shore A
Residual indentation	EN ISO 24 343	Mean value \leq 0.15 at thickness $<$ 2.5 Mean value \leq 0.20 at thickness \geq 2.5	0.05 mm
Abrasion resistance at 5 N load	ISO 4649, procedure A	\leq 250 mm ³	130 mm ³
Colour fastness to artificial light	ISO 105-B02, procedure 3, test conditions 6.1 a)	At least 6 on the blue scale, \geq 3 on the grey scale (= 350 MJ /m ²)	Grey scale \geq 3 acc. to ISO 105-A02

Additional technical data			
Weight	EN ISO 23 997		2.0 mm ~3.36 kg/m ² 2.5 mm ~4.2 kg/m ²
Tear strength	ISO 34-1, method B, procedure A		31 N/mm
Slip resistance	DIN 51 130		R 9* (smooth surface) R 10* (finely-structured surface)
Improvement in footfall sound absorption	ISO 10 140-3		6 dB
Effect of chemicals	EN ISO 26 987	Depending on concentration and time of exposure	Resistant ^(A)
Electrostatic behaviour when being walked on	EN 1815		Antistatic, charging in case of rubber soles $<$ 2 kV

Fire behaviour/smoke behaviour		Fulfills the requirements	
Fire behaviour	CNTK/UIC-Codex 564-2/12		Class A*
	DIN 5510-2	Deutsche Bahn AG	SF3*
	EN 13501-1	Not bonded	B _{fl-s1} *
	JRMA		Difficult to burn*
	UNE 23727		M2 on wood*
	UNI 8457/UNI 9174	UNI 9177	Class 1A*
EN 45 545		HL2	
Fire behaviour	ASTM E-648/ISO 9239-1	Federal Railroad Administration	Class 1 (\geq 0.50 W/cm ²)*
Smoke density	ASTM E-662		After 1.5 minutes $<$ 100, after 4 minutes $<$ 200*
Fire behaviour	NF F 16-101 (NF P 92-501)	NF F 16-101 for grid 5/8	M2 on M1 substrate*
Smoke density/Smoke toxicity	NF F 16-101 (NF X 10-702/X 70-100)		F1*
Fire behaviour	BS 476, part 7	Vehicle cat. Ia acc. to BS 6853	Class 2 fulfilled*
Smoke density	BS 6853, annex D.8.6		A ₀ \leq 220 fulfilled*
Smoke toxicity	BS 6853, annex B		R \leq 5 fulfilled*
Smoke toxicity	Bombardier SMP 800-C		Fulfilled*
	DIN 53 436		Carbonisation gases are non-toxic*
	ISO 5659-2	DIN 5510-2	FED \leq 1*
Classification in Hazard Level			
Fire behaviour, sea going vessels (surface flammability)	IMO Res. A.653(16)/ F.T.P. Code, part 5	IMO Res. MSC 61(67)	Fulfilled*
Smoke density and toxicity, sea going vessels	ISO 5659, part 2/ F.T.P. Code, part 2		
Oxygen index	ISO 4589		~33%

Approvals		
EC-Type Examination Certificate for use on board of sea going vessels in compliance with directive 96/98/EC	Modules B + D	✓
IMO Type Approvals for sea-going vessels by BG Verkehr and U. S. Coast Guard	IMO Res. MSC 61(67), annex 1, part 2 + 5	✓

* Tested and certificated by an independent testing institute.

^(A) In case of increased impact of oils, greases, acids, alkalis and other aggressive chemicals as well as light oils and fuels - please contact us.

nora[®] Rubber Floorings for Transportation Projects

Product information: noraplan[®] mobil (mix 932)
 Designs: effect and mega

noraplan[®] mobil (mix 932) was especially developed for the application in railways to meet their specific requirements as it is extremely fire-resistant and halogen-free. The material is available in rolls and tiles in above mentioned designs.

Its particularly resilient and tear-resistant characteristics make it easy to install in difficult application areas.

noraplan[®] effect mobil (mix 932) with striking granular design is a single-layer rubber floor covering for high performance with smooth, sanded back. The mat reflection-breaking surface with a slightly fine structure covers up visually uneven patches of the subfloor. noraplan[®] mega mobil (mix 932) has a mat, non-reflecting surface without structure.

Technical data Properties acc. to EN 1817	Test method	Requirements	Average test results from running production
Thickness	EN ISO 24 346	Mean value ± 0.15 mm of nominal value	2.0 mm
Dimensional stability	EN ISO 23 999	± 0.4 %	± 0.3 %
Cigarette-burn resistance	EN 1399	Procedure A (stubbed out) \geq level 4 Procedure B (burning) \geq level 3	Fulfilled
Flexibility	EN ISO 24 344, procedure A	Mandrel diameter 20 mm, no fissuring	Fulfilled
Hardness	ISO 7619	≥ 75 Shore A	90 Shore A
Residual indentation	EN ISO 24 343	Mean value ≤ 0.15 at thickness ≥ 2.5 mm Mean value ≤ 0.20 at thickness ≥ 2.5 mm	0.07 mm
Abrasion resistance at 5 N load	ISO 4649, procedure A	≤ 250 mm ³	170 mm ³
Colour fastness to artificial light	ISO 105-B02, procedure 3, test conditions 6.1 a)	At least 6 on the blue scale, ≥ 3 on the grey scale (= 350 MJ /m ²)	Grey scale ≥ 3 acc. to ISO 105-A02

Additional technical data			
Weight	EN ISO 23 997		~ 3.20 kg/m ²
Tear strength	ISO 34-1, method B, procedure A		25 N/mm
Slip resistance	DIN 51 130		R 9*
Improvement in footfall sound absorption	ISO 10 140-3		6 dB
Effect of chemicals	EN ISO 26 987	Depending on concentration and time of exposure	Resistant ^(A)
Electrostatic behaviour when being walked on	EN 1815		Antistatic, charging in case of rubber soles < 2 kV

Fire behaviour/smoke behaviour		Fulfills the requirements	
Fire behaviour	DIN 5510-2	Deutsche Bahn AG	SF3*
	EN 13 501-1	Not bonded	B _{fl} -s1*
Smoke density/Smoke toxicity	NF F 16-101 (NF X 10-702/X 70-100)	NF F 16-101 for grid 5/8	F1*
Smoke toxicity	ISO 5659-2	DIN 5510-2	FED ≤ 1 *

Approvals		
Deutsche Bahn AG, Germany	Werkstoffleistungsblatt (material performance sheet)	✓

* Tested and certificated by an independent testing institute.

^(A) In case of increased impact of oils, greases, acids, alkalis and other aggressive chemicals as well as light oils and fuels - please contact us.

nora[®] Rubber Floorings for Transportation Projects

Product information: norament[®] 926
 Designs: crossline, serra, satura and grano, uni with pastilles

norament[®] 926 single-layer rubber floor coverings are available in tiles in the above named designs with three-dimensional carving-structure (crossline), directional relief structure (serra) and hammerblow surface (grano, satura). norament[®] 926 floor coverings for extremely heavy traffic areas are largely resistant to oils and greases, safe in fire-toxicological terms and halogen-free. Exposure to extreme stresses impairs neither the functionality nor its visual appearance.

Technical data	Test method	Requirements	Average test results from running production
Properties acc. to EN 1817 / EN 12 199			
Thickness	EN ISO 24 346	Mean value \pm 0.20 mm of nominal value	3.5 mm/4.0 mm
Dimensional stability	EN ISO 23 999	\pm 0.4 %	\pm 0.3%
Cigarette-burn resistance	EN 1399	Procedure A (stubbed out) \geq level 4 Procedure B (burning) \geq level 3	Fulfilled
Flexibility	EN ISO 24 344, procedure A	Mandrel diameter 20 mm, no fissuring	Fulfilled
Hardness	ISO 7619	\geq 75 Shore A	82 Shore A
Residual indentation	EN ISO 24 343	Mean value \leq 0.25	0.15 mm
Abrasion resistance at 5 N load	ISO 4649, procedure A	\leq 250 mm ³	115 mm ³
Colour fastness to artificial light	ISO 105-B02, procedure 3, test conditions 6.1 a)	At least 6 on the blue scale, \geq 3 on the grey scale (= 350 MJ/m ²)	Grey scale \geq 3 acc. to ISO 105-A02

Additional technical data			
Weight	EN 430		~5.10 kg/m ²
Tear strength	ISO 34-1, method B, procedure A	Mean value \geq 20 N/mm	35 N/mm
Slip resistance	DIN 51 130		R 9* R 10* = crossline + serra
Improvement in footfall sound absorption	ISO 10 140-3		10 dB - 3.5 mm 12 dB - 4.0 mm
Effect of chemicals	EN ISO 26 987	Depending on concentration and time of exposure	Resistant ^(A)
Electrostatic behaviour when being walked on	EN 1815		Antistatic, charging in case of rubber soles < 2 kV

Fire behaviour/smoke behaviour		Fulfills the requirements	
Fire behaviour	DIN 5510-2		SF3*
	EN 13 501-1		B _{fl-s} 1*
Fire behaviour	ASTM E-648/ISO 9239-1	Federal Railroad Administration	Class 1 (\geq 0.50 W/cm ²)*
Smoke density	ASTM E-662	Federal Railroad Administration	After 1.5 minutes < 100, after 4 minutes < 200*
Smoke toxicity	DIN 53 436		Carbonisation gases are non-toxic*

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