



nora[®] Transportation Solutions

High-performance flooring solutions for
the international rail and bus industry

nora[®]
by Interface[®]

NORA WELCOMES YOU ABOARD

At nora, we recognize the significant impact that floor coverings have on your vehicle. That's why we're committed to creating safer spaces for the rail and bus industry for more than 70 years. Thanks to innovative in-house developments backed up by trend-setting production processes and an uncompromisingly stringent quality assurance system, nora systems became the number one worldwide in this field – a professional complete system supplier for equipping trains and buses.

BENEFITS AT A GLANCE

Highest performance

- extraordinarily durable and wear-resistant due to dense and close surface
- extremely long lifespan, thus less frequent need of renovation
- dimensional stable

Safety and comfort

- outstanding fire-protection properties: flame-retardant, no corrosive vapours in case of fire, no source for dioxins and furans; meeting the following international railway standards:
 - EN 45545
 - DIN 5510-2
 - BS 6853:1999
 - NFPA 130
 - NF-F 16-101
 - UIC 564-2/12
- free of PVC, plasticizers (phthalates) and halogens (e.g. chlorine)
- free of asbestos, cadmium, CFCs and formaldehyde
- resistant to cigarette burns
- antistatic: no electrostatic charge build-up when walked on, so no perceptible discharges
- high underfoot comfort
- slip resistance
- environmentally compatible: made of high-quality rubber, minerals from natural sources and eco-compatible colour pigments



Subway Munich, noraplan®plus mobil (931)

Simplicity in installation

- fast and simple laying in just a few steps
- works on all types of subfloor

Savings in maintenance

- no coating necessary
- low dirt adhesion
- reduced care and maintenance costs
- resistant to chemicals & different media
- successful graffiti removal

OUR SOLUTION RANGE

nora® floor coverings are well prepared to meet all specific requirements in the worldwide transportation business. Leaving our customer satisfied is of utmost priority. Therefore we are proud to offer a comprehensive and compliant transport flooring product portfolio for the rail and bus industry. Within the portfolio are safety floors, inlays, stairtreads as well as accessories or installation tools.

COMPONENTS AT A GLANCE

- huge product offering with regard to functionality, colour and design
- customized rubber floorings for your specific technical requirements
- norament® stairtreads – also available with signal or safety stripes
- extensive accessory range including stair nosings, stair angles, stringers and skirtings
- inlays according to customer drawing that can be laid without sealing the joints
- car kit delivery – easy and comfortable provision of material per car
- global advice and technical support
- installation and maintenance training
- nora® nTx: a complete flooring system for all areas in rail vehicles and buses – easy to lay with instant bonding.



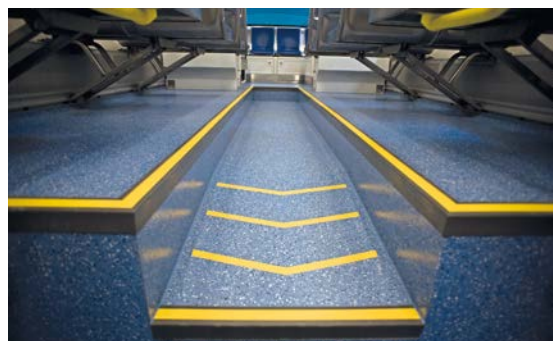
Taylor-made inlays



Routed inlay



Special installation solutions for e.g. running covers



Stair nosing with signal stripes

OUR REVOLUTIONARY INSTALLATION SYSTEM NORA® NTX

When time is a decisive factor, nora® nTx is the perfect solution. A complete flooring system for all areas in the rail and bus industry – easy to lay with instant bonding. Simple, effective and super fast.

HOW DOES IT WORK?

nora® nTx is a new and unique technology for installers to lay nora® rubber flooring systems. Because the powerful adhesive is factory-fitted, nora® nTx is as simple as it is ingenious. In a few simple steps, the flooring can be cleanly and safely installed and used immediately. nora® nTx is available for all noraplan® products used in the rail and bus industry.



Ongoing nora® nTx installation

BENEFITS AT A GLANCE

- fast and simple laying in just a few steps
- works on all types of subfloor
- installation on existing floor covering
- no need to interrupt your daily work
- no drying or waiting time
- can be used immediately after laying
- complete system from a single supplier
- minimized downtime – economical for car builders and operators



Pre-applied, solvent-free adhesive backing

NORA® NTX ALREADY INSTALLED AT:

- Siemens Austria, Metro Riyadh
- CAF Spain, Metro Santiago de Chile
- CAF France, Metro Lyon (renovation)
- CAF Metro Istanbul
- CAF trains for Nedtrain
- SNCB Salzinnes (B)

SUPPLEMENTING ACCESSORIES

Additionally we provide separate dry adhesives and diverse accessories for the installation of our floor coverings.

DRY ADHESIVES

nora® dryfix 750

For permanent fixing of noraplan® floor coverings, supplied in rolls, 30 m x 0.75 m
Art. 6556

nora® profix

Dry adhesive tapes

- nora® profix 50
For quick installation of noraplan® floor coverings on covings, supplied in rolls, 50 mm (tape width) x 50 m (roll length)
Art. 992
- nora® profix 90
For quick installation of noraplan® floor coverings on covings, supplied in rolls, 90 mm (tape width) x 50 m (roll length)
Art. 993



nora® profix

TOOLS FOR JOINT SEALING

nora® joint sealing compound

For colour-matched joint sealing of nora® floor coverings, 300 ml cartridge, sufficient for 20–25 r.m.
Art. 928

nora® joint cutter

Art. 116950

nora® liquid wax

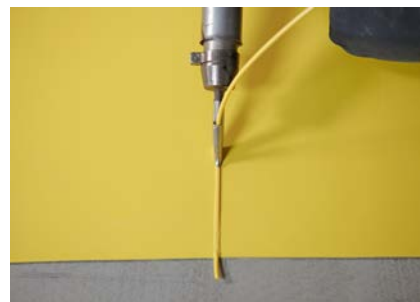
Art. 109914

nora® smoothing spatula for nora® joint sealing compound (package 1 pcs)
Art. 120184

nora® hot welding rod for noraplan® floor coverings colour-matched, round, Ø 4 mm, rolls of 100 r.m.
Art. 946



nora® joint sealing compound

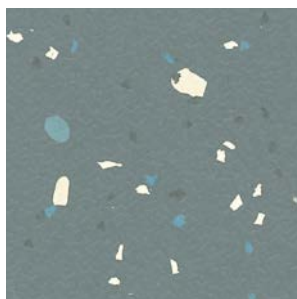


nora® hot welding rod

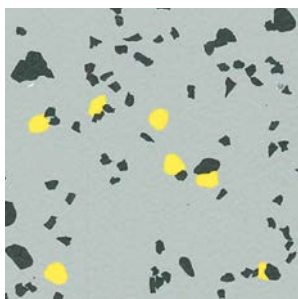
DESIGN OPTIONS

Please find below an overview on the different design options – detailed information is available on the following product information pages.

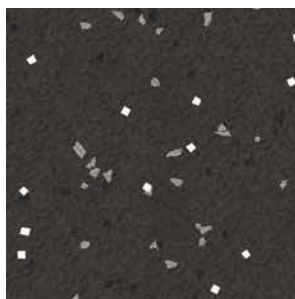
* available as mix 931



noraplan® stone plus*



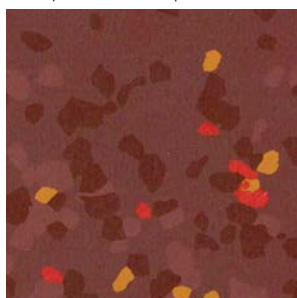
noraplan® grip plus*



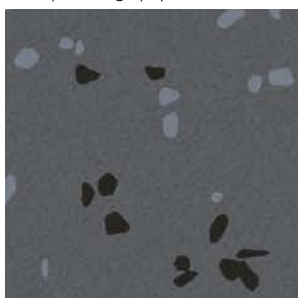
noraplan® grip*



noraplan® effect*



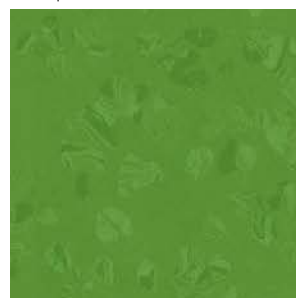
noraplan® plus*



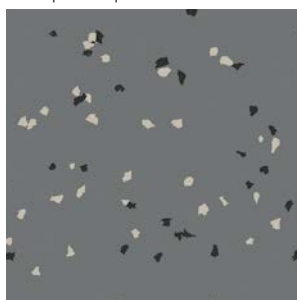
noraplan® effect spez.



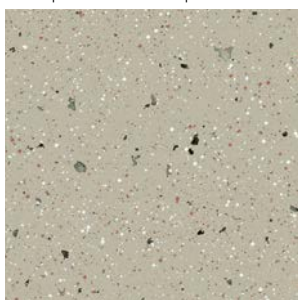
noraplan® eco*



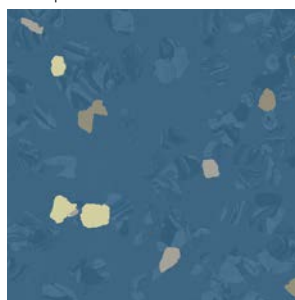
noraplan® sentica



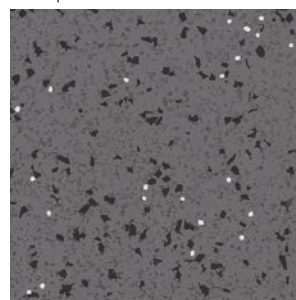
noraplan® stone*



noraplan® unita



noraplan® signa



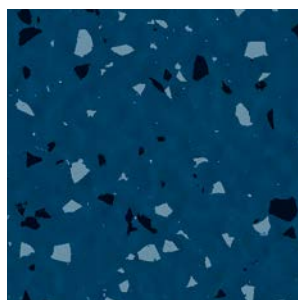
noraplan® ultra grip*



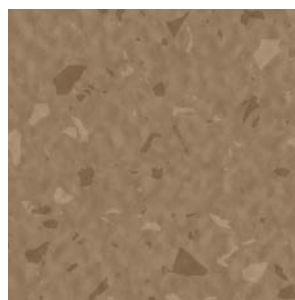
noraplan® valua



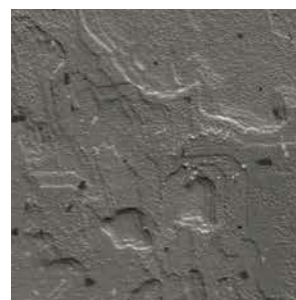
norament® 920/926



norament® 926 grano



norament® 926 satura



norament® 926 arago

PRODUCT INFORMATION

noraplan® (mix 913)

Designs: sentica, signa, unita, eco, stone and valua

noraplan® (mix 913) are halogen-free, 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 sentica, signa, unita and eco are available with a smooth, non-reflecting surface and valua with a linear surface 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 (exception: unita)
Hardness	ISO 7619	≥ 75 Shore A	92 Shore A
Residual indentation	EN ISO 24 343	Mean value ≤ 0.15 at thickness < 2.5 Mean value ≤ 0.20 at thickness ≥ 2.5	0.05 mm
Abrasion resistance at 5 N load	ISO 4649, procedure A	≤ 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, ≥ 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		~ 3.36 kg/m ²
Tear strength	ISO 34-1, method B, procedure A		28 N/mm
Slip resistance	DIN 51 130		R 9 (smooth/linear surface structure) 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		Fulfils 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	bonded	B _{fl} -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	Class1 (≥ 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 ≤ 5 fulfilled
	DIN 53 436		Carbonisation gases are non-toxic
	ISO 5659-2	DIN 5510-2	FED ≤ 1
Oxygen index	ISO 4589		~ 23 %

^(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.

PRODUCT INFORMATION

noraplan® mobil (mix 931)

Designs: stone, effect, eco, grip, plus, stone plus and grip plus

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. noraplan® stone, grip, stone plus and grip plus have a mat, reflection-breaking, finely-structured surface. The designs effect, plus 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 ± 0.15 mm of nominal value	2.0/2.5 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	85 Shore A
Residual indentation	EN ISO 24 343	Mean value ≤ 0.15 at thickness < 2.5 Mean value ≤ 0.20 at thickness ≥ 2.5	0.05 mm
Abrasion resistance at 5 N load	ISO 4649, procedure A	≤ 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, ≥ 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		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
	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 (≥ 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 ≤ 220 fulfilled
Smoke toxicity	BS 6853, annex B		R ≤ 5 fulfilled
Smoke toxicity	Bombardier SMP 800-C		Fulfilled
	DIN 53 436		Carbonisation gases are non-toxic
	ISO 5659-2	DIN 5510-2	FED ≤ 1
Oxygen index	ISO 4589		~ 33 %

^(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.

PRODUCT INFORMATION

noraplan® ultra grip (mix 931)

noraplan® ultra grip (931) is a single-layer rubber floorcovering for high performance with a smooth, sanded back. noraplan® ultra grip 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 continuous production
CE conformity	EN 14 041		Manufacturer: nora systems GmbH, D-69469 Weinheim
DoP-No.	EN 14 041	± 0.4 %	0033
Dynamic coefficient of friction	EN 13 893	DS	Fulfilled
Thermal conductivity	EN 10 456	$\lambda = 0.17 \text{ W/(m *K)}$	Fulfilled
Reaction to fire	EN 13 501-1	Not bonded	Bfl-s1
Properties acc. to EN 1817			
Thickness	EN ISO 24 346	Mean value ± 0.15 mm of nominal value	2.0 mm 2.5 mm
Dimensional stability	EN ISO 23 999	± 0.4 %	± 0.3%
Cigarette-burn resistance	EN 1399	Procedure A (stubbed out) ≥ level 4 Procedure B (burning) ≥ level 3	Fulfilled
Flexibility	EN ISO 24 344, procedure A	Mandrel diameter 20 mm, no fissuring	Fulfilled
Hardness	ISO 7619	≥ 75 Shore A	85 Shore A
Residual indentation	EN ISO 24 343	Mean value ≤ 0.15 at thickness < 2.5 Mean value ≤ 0.20 at thickness ≥ 2.5	0.05 mm
Abrasion resistance at 5 N load	ISO 4649, procedure A	≤ 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, ≥ 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		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 11 (finely-structured surface)
	BS 7976 TRRL Pendulum using 96 slider		> 36 Wet & Dry
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		Fulfils the requirements	
Fire behaviour	DIN 5510-2	Deutsche Bahn AG	SF3
	EN 45 545	Hazard Level	HL2
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 _D ≤ 220 fulfilled
Smoke toxicity	BS 6853, Annex B		R ≤ 5 fulfilled
Oxygen index	ISO 4589		~30%

^(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.

PRODUCT INFORMATION

noraplan® mobil (mix 932)

Designs: effect, mega, eco, plus, stone and grip

noraplan® mobil (mix 932) is a single-layer rubber floor covering for high performance. The designs effect, mega, eco, plus have a smooth, mat, non-reflecting surface without structure. noraplan® stone and grip have a mat, reflection-breaking surface. noraplan® mobil (mix 932) 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.

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 9/10
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		Fulfil the requirements	
Fire behaviour	DIN 5510-2	Deutsche Bahn AG	SF3
	EN 13 501-1	Not bonded	B _{fl} -s1
	EN 45 545	(Hazard Level)	HL1
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

^(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.

PRODUCT INFORMATION

norament® 926

Designs: arago, satura and grano, uni with pastilles

norament® 926 single-layer rubber floor coverings are available in tiles in the above named designs with directional relief structure (arago) 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 Properties acc. to EN 1817 / EN 12 199	Test method	Requirements	Average test results from running production
Thickness	EN ISO 24 346	Mean value ± 0.20 mm of nominal value	3.5 mm/4.0 mm
Dimensional stability	EN ISO 23 999	± 0.4 %	± 0.3 %
Tear strength	ISO 34-1, method B, procedure A	Mean value ≥ 20 N/mm	35 N/mm
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	82 Shore A
Residual indentation	EN ISO 24 343	Mean value ≤ 0.25	0.15 mm
Abrasion resistance at 5 N load	ISO 4649, procedure A	≤ 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, ≥ 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		~5.60 kg/m ²
Tear strength	ISO 34-1, method B, procedure A	Mean value ≥ 20 N/mm	35 N/mm
Slip resistance	DIN 51 130		R 9 (arago: R 10)
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		Fulfils the requirements	
Fire behaviour	DIN 5510-2		SF3
	EN 13 501-1	bonded	B _{fl} -s1
	Directive 95/28/EG/ FMVSS/CMVSS 302		Fulfilled
	EN 45 545	Hazard Level	HL1
Fire behaviour	ASTM E-648/ISO 9239-1	Federal Railroad Administration	Class 1 (≥ 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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PRODUCT INFORMATION

norament® 920



norament® 920 is an one-coloured, extremely fire-resistant and halogen-free rubber flooring for extremely heavy traffic areas. norament® 920 is largely resistant to oils and greases and offers all the advantages our customers rightfully expect from a resilient floor covering, too. 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 12 199			
Thickness	EN ISO 24 346	Mean value ± 0.20 mm of nominal value	4.0 mm
Dimensional stability	EN ISO 23 999	± 0.4 %	± 0.3%
Tear strength	ISO 34-1, method B, procedure A	Mean value ≥ 20 N/mm	42 N/mm
Cigarette-burn resistance	EN 1399	Procedure A (stubbed out) ≥ level 4 Procedure B (burning) ≥ level 3	Fulfilled
Flexibility	EN ISO 24 344, procedure A	Mandrel diameter 20 mm, no fissuring	Fulfilled
Hardness	ISO 7619	≥ 75 Shore A	83 Shore A
Residual indentation	EN ISO 24 343	Mean value ≤ 0.25 mm	0.15 mm
Abrasion resistance at 5 N load	ISO 4649, procedure A	≤ 250 mm³	130 mm³
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 /m²)	Grey scale ≥ 3 acc. to ISO 105-A02
Additional technical data			
Weight	EN ISO 23 997		~ 6.50 kg/m²
Improvement in footfall sound absorption	ISO 10 140-3		12 dB
Effect of chemicals	EN ISO 26 987		Resistant depending on concentration and time of exposure ^(A)
Electrostatic behaviour when being walked on	EN 1815		Antistatic, charging in case of rubber soles < 2 kV
Dielectric strength	EN 60 243-1, VDE 0303, part 21		≤ 34 kV
Electrical insulation properties	IEC 60 093, VDE 0303 T.30		> 10 ¹⁰ Ohm
Fire behaviour/smoke behaviour			
Fire behaviour	EN 13 501-1		Bfl-s1
	EN 45 545	Hazard Level	HL3
	UIC-Codex 564-2/12		Class A
Fire behaviour, sea going vessels (surface flammability)	IIMO Res. MSC.307 (88) – (F.T.P. Code 2010)		Fulfilled
Smoke density and toxicity, sea going vessels	IMO Res. MSC.(61/67) – (F.T.P. Code) part 2+part 5		Fulfilled (glued with Uzin KR430 or nora 310 PU)
Approvals			
EC-Type Examination Certificate for use on board of sea going vessels in compliance with directive 2014/90/EU			Certificate No. 124041-04

^(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.



SIEMENS SUBWAY MUNICH
NORAPLAN® PLUS MOBIL (931)





WUPPERTAL SUSPENSION RAILWAY
NORAPLAN® SENTICA



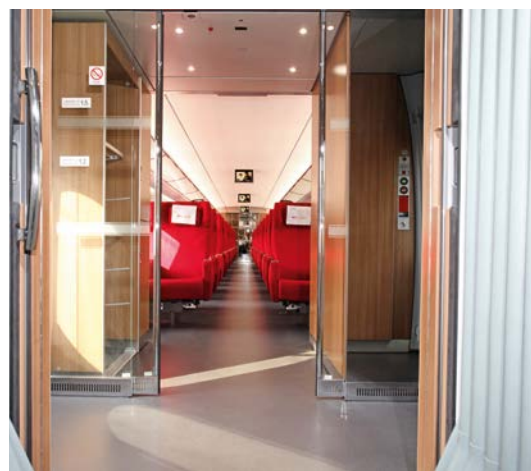


ALSTOM CORADIA CONTINENTAL ENNO
NORAPLAN® STONE





RAILWAYS HIGHSPED CRH380A, CHINA
NORAPLAN® GRIP PLUS (934)





SHANGHAI METRO LINE 12
NORAPLAN® SIGNA





ALSTOM LINT NETINERA
NORAPLAN® STONE





SOUND TRANSIT EXPRESS SEATTLE
NORAPLAN® STONE



WE TAKE PRIDE IN OUR DIVERSE WORLDWIDE PROJECTS

METROS/SUBWAYS

Project	Country	Manufacturer/Customer	Year	nora® flooring
U-Bahn München	Austria	Siemens	2012	noraplan® plus (931)
Metro Melbourne	Australia	Siemens	2001	noraplan® stone (931)
MTM Newport Australia	Australia	Siemens	2014	noraplan® stone (931)
Brussels	Belgium	STIB/MIVB	2001	norament® 923
Brussels	Belgium	Bombardier	2002	norament® 923
Metro Brussels	Belgium	CAF	2005	norament® 923 grano
Metro Brazil	Brazil	Rotem	2005	noraplan® stone
São Paulo	Brazil	Rotem	2008	noraplan® stone (931)
Salvador Phase 2 112 Cars	Brazil	Rotem	2015	noraplan® stone (931)
São Paulo CPTM 240 Cars	Brazil	Rotem	2015	noraplan® stone plus (931)
City of Montreal	Canada	Bombardier	2000	noraplan® mega
Canada	Canada	Rotem	2006	noraplan® uni
Xi'an Metro Line 3	China	CNR Dalian	2015	noraplan® sentica
Tianjin Metro Line 3	China	CSR Qingdao	2009	noraplan® stone (931)
Tianjin Metro Line 2	China	CNR Dalian	2009	noraplan® stone (931)
Shanghai Metro Line 9	China	CNR Changke	2016	noraplan® mega
Shanghai Metro Line 2, 13	China	CSR Puzhen	2009, 2011	noraplan® stone (931), plus
Shanghai Metro Line 12	China	CBRC Changke/Bombardier	2011	noraplan® signa
Shanghai Metro Line 11, 16	China	CSR Zhuzhou	2011, 2012	noraplan® mega
Nanning Metro Line 1	China	CSR Zhuzhou	2014	noraplan® signa
Kunming Metro Line 1, 2, 3, 6	China	CSR Zhuzhou	2011, 2015, 2016	noraplan® mega
Zhengzhou Metro Line 2	China	CSR Zhuzhou	2016	noraplan® mega
Beijing Metro Line 2, 5, 8, 10	China	CNR Changke	2007, 2008	noraplan® stone, mega, plus
Beijing Metro airport Line	China	CNR Changke	2008	noraplan® grip
Beijing Metro Xijiao Line	China	CNR Dalian	2014	noraplan® stone
Subway Kairo	Egypt	Kinki Sharyo	1992	norament® 921
Metro Helsinki	Finland	Bombardier	2000	noraplan® mega
Metro de Lyon	France	S.L.T.C	2001	noraplan® plus (931)
MS 61	France	RATP	2005	noraplan® plus (931)
MS 67	France	RATP	2005	noraplan® plus (931)
MI 79	France	Alstom	2009	noraplan® plus (931)
Metro Berlin	Germany	Bombardier	1987	noraplan® viva
Berlin	Germany	BVG	1999	noraplan® stone
Metro Munich	Germany	ADtranz	1999	noraplan® effect
Metro Athens	Greece	Rotem	2003	noraplan® stone
Kolkata Metro	India	ICF	2016-17	noraplan® stone mobil (931)
Kolkata Metro	India	ICF	2018-19	noraplan® stone mobil (931)
Kolkata Metro	India	ICF	2019-20	noraplan® stone mobil (931)
Metro Delhi	India	Bombardier	2011	noraplan® stone (931)
Metro Chennai (Car Kit)	India	Alstom	2013	noraplan® grip / stone
Metro Hyderabad	India	Rotem	2013	noraplan® stone (931)
RS 10 Delhi	India	Rotem	2014	noraplan® stone (931)
Iran	Iran	Rotem	2007	noraplan® stone (931)
Tokyo Metro	Japan	Takara	2010	noraplan® stone (931)
Yurikamome	Japan	Takara	2011	noraplan® stone (931)
Seibu Railway Maintenance	Japan	Takara	2011	noraplan® stone (931)
Tokyo Metro 10000 series	Japan	Takara	2011	noraplan® stone plus (931)
Daegu Line 2	Korea	Rotem	2004	noraplan® stone (931)
Seoul Line 2,3 +4	Korea	Heung Il	2004	noraplan® uni (931)
Seoul Line 6,7 +8	Korea	Rotem	2004	noraplan® stone (931)
Seoul Line 1,2,3 +4	Korea	ROWIN	2005	noraplan® uni (931)
Seoul Line 5,6 +8	Korea	Heung Il	2005	noraplan® stone (931)
Seoul Line 6,7 +8	Korea	Rotem	2005	noraplan® stone (931)
Seoul Line 5	Korea	SLS Heavy	2006	noraplan® stone (931)
Seoul Line 2	Korea	Rotem	2007	noraplan® stone / grip
Seoul Line 9	Korea	Rotem	2009	noraplan® stone (931)
Malaysia	Malaysia	Rotem	2008	noraplan® plus
Metro Oslo	Norway	Siemens	2005	noraplan® plus
Metro Warschau	Poland	Siemens	2011	noraplan® stone (931)

METROS/SUBWAYS

Project	Country	Manufacturer/Customer	Year	nora® flooring
Metro Lisbon	Portugal	ADtranz	1998	norament® 923
Metro Porto	Portugal	ADtranz	2001	noraplan® stone
Syrian Railway	Syria	Rotem	2005	noraplan® stone
Metro Taipei	Taiwan	Siemens	2003	noraplan® vario
City of Ankara	Turkey	Bombardier	1983	noraplan® vario
Metro Istanbul	Turkey	Alstom	2008	noraplan® stone
Metro Izmir 120 cars	Turkey	Rotem	2013	noraplan® stone (931)
Metro North	USA	Bombardier	1997	noraplan® vario
Amtrak Metro Liner	USA	Bombardier	1999	norament® 925
New Jersey Transit	USA	A.A.I	2000	noraplan® stone
Los Angeles Transit	USA	Bombardier	2001	norament® 825
New York City Transit	USA	Kawasaki	2001	norament® 925 lago
New York City Transit	USA	NYCTA	2001	norament® 925 lago
New Jersey Transit	USA	Bombardier	2002	noraplan® vario
New York City Transit	USA	Bombardier	2002	norament® 925 lago/terrazzo
Los Angeles Transit	USA	Rotem	2008	norament® 825
NYCT R-160	USA	Kawasaki	2010	norament® 925 lago
NYCT R-188	USA	Kawasaki	2012	norament® 925 lago

LIGHT RAIL SYSTEMS

Project	Country	Manufacturer/Customer	Year	nora® flooring
Alger	Algeria	Alstom	2009	noraplan® stone (931)
Constantine	Algeria	Alstom	2009	noraplan® stone (931)
Oran	Algeria	Alstom	2009	noraplan® stone (931)
ULF Vienna	Austria	Siemens	2003	noraplan® stone (931)
V-Wagen	Austria	Siemens	2013	noraplan® stone (931)
Tramway Brussels	Belgium	STIB/MIVB	1993	norament® 923 grano
Tramway Brussels	Belgium	Bombardier	2005	noraplan® stone(931)
Zhuhai Line	China	CRRCL Dalian	2016	noraplan® stone
Wuhan Line 1, 6	China	CSR Zhuzhou	2015, 2016	noraplan® stone, signa
Shanghai Metro Line 17	China	CNR Changchun	2016	noraplan® plus (931)
Shanghai Line 3, 4	China	Shanghai Alstom	2016	noraplan® stone (931)
Nanning Metro Line 2	China	CSR Zhuzhou	2016	noraplan® signa
CITADIS Lyon	France	Alstom	1999	noraplan® plus (931)
CITADIS Valenciennes	France	Alstom	2000	noraplan® plus (931)
CITADIS Orleans	France	Alstom	2001	noraplan® plus (931)
CITADIS Montpellier	France	Alstom	2002	noraplan® plus (931)
CITADIS Bordeaux	France	Alstom	2003	noraplan® plus (931)
Mulhouse	France	Alstom	2005	noraplan® stone (931)
Strasbourg	France	Alstom	2005	noraplan® plus (931)
Grenoble	France	Alstom	2006	noraplan® plus (931)
Le Mans	France	Alstom	2006	noraplan® stone (931)
Reims	France	Alstom	2006	noraplan® stone (931)
Angers	France	Alstom	2007	noraplan® stone (931)
Nice	France	Alstom	2007	noraplan® plus (931)
CITADIS Le Havre	France	Alstom	2011	noraplan® stone (931)
CITADIS Brest	France	Alstom	2011	noraplan® stone (931)
CITADIS Dijon	France	Alstom	2011	noraplan® stone (931)
CITADIS Rouen	France	Alstom	2011	noraplan® stone (931)
CITADIS Toulouse	France	Alstom	2013	noraplan® stone (931)
CITADIS Aubagne	France	Alstom	2013	noraplan® plus (931)
CITADIS Constatine	France	Alstom	2013	noraplan® stone (931)
CITADIS Bordeaux	France	Alstom	2013	noraplan® plus (931)
CITADIS Strasbourg	France	Alstom	2014	norament® 920
Tramway Munich	Germany	ADtranz	1989	noraplan® stone
S-Bahn Berlin, BR 481	Germany	ADtranz	1992	noraplan® viva
Tramway Berlin	Germany	ADtranz	1993	noraplan® stone
ET 474	Germany	Alstom	1995	noraplan® mega
Oberlandbahn	Germany	PFA	1997	noraplan® effect

HEAVY RAILWAYS

Project	Country	Manufacturer/Customer	Year	nora® flooring
Metrolinx 263	Canada	Bombardier	2013	noraplan® ultra grip
Taiwan EMU	Taiwan	TRSC	2012 - 2016	noraplan® eco, stone
EMU High Speed Trains	China	CSR Qingdao	2010 - 2016	noraplan® grip plus, plus, stone, grip (934)
EMU High Speed Trains	China	Qingdao Bombardier	2006, 2008, 2010 - 2015	noraplan® grip, plus (931)
EMU High Speed Trains	China	CNR Tangshan/Changchun	2008 - 2014	noraplan® grip, plus
Qinghai - Tibet Line	China	Qingdao Bombardier	2004	noraplan® (931)
Taiwan Common Railways	Taiwan	TRSC	2012	noraplan® eco stone
Egyptian Railways	Egypt	Temoinsa	2002	noraplan® vario
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)
Transilien	France	SNCF	2007	noraplan® grip (931)
Double-deck coaches KISS	Germany	Stadler	2011	noraplan® stone
Kiss CFL	Germany	Stadler	2012	noraplan® effect (932)
FLIRT ET-SW (DB)	Germany	Stadler	2012	noraplan® stone
FLIRT ENR	Germany	Stadler	2013	noraplan® stone
FLIRT MSH	Germany	Stadler	2013	noraplan® ultra grip/unita
KISS + FLIRT EMIL	Germany	Stadler	2014	noraplan® stone
LINT KÖLN (Car Kit)	Germany	Alstom	2012	noraplan® effect
LINT Netinera (Car Kit)	Germany	Alstom	2013	noraplan® stone
LINT LNVG 7 (Car Kit)	Germany	Alstom	2013	noraplan® effect
LINT DNOW	Germany	Alstom	2014	noraplan® effect (932)
ICX	Germany	Siemens	2014	noraplan® ultra grip
J&K Coaches DEMU	India	ICF	2017-18	noraplan® stone mobile (931)
Sri Lanka Demu	India	ICF	2018-19	noraplan® grip plus mobil (934)
Tsukuba Express	Japan	Takara	2011	noraplan® stone (931)
SGM III / SGM II	Netherlands	Bombardier	2002	noraplan® plus (931)
Aeroexpress Russia	Russia	Stadler	2014 - 2015	noraplan® grip plus
SBB Double-deck coaches	Switzerland	Bombardier	2010 - 2015	noraplan® stone
Rhätische Bahn	Switzerland	Stadler	2011	noraplan® grip
Zentralbahn	Switzerland	Stadler	2011 - 2013	noraplan® stone
Kawasaki PA5	USA	Kawasaki	2010	norament® 925 grano
CTA	USA	Bombardier	2013	noraplan® stone plus
BART	USA	MCI	2013	noraplan® stone plus
WMATA	USA	WMATA	2013	norament® 925 grano
Sun Rail 256	USA	Bombardier	2013	norament® 926 grano
WMATA 7000	USA	Kawasaki	2014	norament® 925 lago
AMTRAK Baggage Cars	USA	CAF	2014	norament® 925 grano
M8	USA	Kawasaki	2014	noraplan® plus
Metra Amerail	USA	MCI	2014	norament® 925 grano
Metra BUDD	USA	MCI	2014	norament® 925 grano
Metra Nippon Sharyo	USA	Nippon Sharyo	2014	noraplan® ultra grip
Smart DMU	USA	Nippon Sharyo	2014	noraplan® stone

LIGHT RAIL SYSTEMS

Project	Country	Manufacturer/Customer	Year	nora® flooring
BR 642	Germany	Siemens	1999	noraplan® effect
Tramway Dresden	Germany	Bombardier	1999	noraplan® stone
ET 423	Germany	Alstom	2000	noraplan® effect
LINT	Germany	Alstom	2001	noraplan® effect
Tramway Essen	Germany	Bombardier	2001	noraplan® stone
Tramway Jena	Germany	Bombardier	2001	noraplan® stone
LINT	Germany	Alstom	2002	noraplan® effect
Tramway Rhein-Neckar	Germany	Bombardier	2003	noraplan® stone
Double-Deck Coaches	Germany	Bombardier	2004	noraplan® effect
CITADIS Kassel	Germany	Alstom	2007	noraplan® effect
ET 422	Germany	Alstom	2008	noraplan® stone
Tramway Bremen	Germany	Bombardier	2008	noraplan® stone
EMU	India	ICF	2018-19	noraplan® stone mobil (931)
Spicac Coaches	India	ICF	2018-19	noraplan® stone mobil (931)
Tejas Coaches	India	ICF	2017-18	noraplan® plus mobil (931)
Train 18	India	ICF	2018-19	noraplan® stone mobil (931)
CITADIS Dublin	Ireland	Alstom	2001	noraplan® plus (931)
Jerusalem	Israel	Alstom	2008	noraplan® plus (931)
Macau APM MHI	Japan	Takara	2012	norament® 926 grano
Rabat	Marocco	Alstom	2009	noraplan® stone (931)
CITADIS Casablanca	Marocco	Alstom	2011	noraplan® stone (931)
Tramway Krakow	Poland	Bombardier	2000	noraplan® stone
Tenerife	Spain	Alstom	2005	noraplan® stone (931)
Istanbul	Turkey	Alstom	2008	noraplan® stone (931)
CITADIS Dubai	U.A.E.	Alstom	2013	noraplan® stone (931)
CITADIS Nottingham	UK	Alstom	2012	noraplan® grip (931)
Salt Lake City LRV	USA	Siemens	2011	norament® 925 grano
San Diego LRV	USA	Siemens	2011	norament® 925 grano
Siemens – Twin Cities	USA	Siemens	2013	norament® 925 grano
TriMet 3	USA	Siemens	2013	norament® 926 grano
Cincinnati-Kansas Transit	USA	CAF	2014	noraplan® stone plus
Houston LRV	USA	CAF	2014	noraplan® stone plus

HIGH SPEED TRAINS

Project	Country	Manufacturer/Customer	Year	nora® flooring
Velaro China	China	Tangshan	2008	noraplan® grip
CRH1 EMU 796	China	Bombardier	2008	noraplan® plus (931)
CRH1 EMU 797	China	Bombardier	2008	noraplan® grip (931)
CRH3 EMU	China	Siemens Tangshan	2009	noraplan® grip
CRH1 EMU 799	China	Bombardier	2010	noraplan® grip (931)
CRH3 Zhengzhouhanxi	China	Siemens Tangshan	2010	noraplan® grip
CRH1 EMU 798	China	Bombardier	2011	noraplan® grip
CHR2	China	Qingdao Sifang	2011	noraplan® grip
CRH1 EMU 806	China	Bombardier	2011	noraplan® grip
CRH1 EMU 803	China	Bombardier	2012	noraplan® plus (931)
CRH6 – 160 KM	China	CSR Sifang	2013	noraplan® stone (934)
CRH6 – 200 KM	China	CSR Sifang	2013	noraplan® stone (934)
Qingdao E27 train	China	CSR Sifang	2013	noraplan® grip plus (934)
Qingdao E28 train	China	CSR Sifang	2013	noraplan® grip plus (934)
BST 798	China	Qingdao Bombardier	2013	noraplan® grip plus (931)
BSP 807	China	Qingdao Bombardier	2013	noraplan® grip plus (931)
Qingdao E21 Train	China	CSR Sifang	2014	noraplan® grip plus (934)
TGV	France	SNCF	1989	noraplan® duo
ICE 1-3	Germany	Alstom	1989	noraplan® stone
Amtrak	USA	Bombardier	1999	norament® 925 grano

nora systems GmbH

Hoehnerweg 2-4

69469 Weinheim · Germany

Phone: +49 (0) 6201 - 80 6633

Fax: +49 (0) 6201 - 88 6633

E-Mail: railway@nora.com

Web: www.nora.com