TECHNICAL DATA SHEET

AMERIN® UD-4/R

FAST-BONDING PUR FLOOR COATING

1. *Description:*

Component A is a solvent-free polyol based resin with pigments, additives and fillers.

Component B is a MDI based poly-isocyanate

2. *Characteristics:*

• fast hardening
• made of reneable raw materials
• slightly flexible, universal type for general use
• versatile application possibilities, all kinds of smooth and skid resistant coatings can be made in various thickness
• excellent flow properties
• excellent abrasion resistance
• good chemical resistance
• wide range of colours
• excellent wetting of quartz sand
• short term dry heat resistance: - 30 C° - +80 C°, long term resistance up to +50 C°
• short term wet heat resistance:+ 50 C°, long term resistance +30 C°
• free of halogens
• meets RoHS directives

3. *Areas of use:*

• similar to AMERIN UD-4, but used when there is only a short time for preparing the flooring
• for coatings exposed to large mechanical and moderate chemical stress
• for industrial and storage halls, premises, workshops, engine-rooms, public areas, commercial areas, corridors, for various branches of trade, industry and service department stores and public buildings, garages, park houses etc.
• produces a more flexible coating than AMERIN DT-4
• it is suitable for overcoating asphalt too

4. *Technical data:*

	AMERIN UD-4 component „A”	AMERIN UD-4/R component „B”		
Characteristics	**VALUE**		**UNIT**	**NORM**
Appearance	coloured liquid **	brownish, transparent liquid	-	HSZ 003
Density, at 25 C°, g/cm^3	2,00-2,20	1,20 - 1,25	g/cm^3	ISO 1675
Viscosity at 25 C°, mPas	3500-7000	70 - 110	mPas	ISO 2555
Storage	in tightly closed, original containers at 5-25ºC, in a dry place far from heaters		-	-

Shelf-life	min. 6	min.6	months	-
Standard package ***	22,5	2,5	kg	-
Flammability	III. grade	III. grade	-	-
Packaging	metalic can	metalic can	-	-
Dangerous decomposition products	carbon-monoxide, carbon-dioxide, nitrogenoxides and other toxic gases, vapours are formed			

*Sedimentation is allowed.
**Available in standard colours or on request other colours are also available.
***On request other packaging is also available.

Technical parameters of the mixture:

Mixing ratio:

AMERIN UD-4/R Component A 9 parts by weight (kg)
AMERIN UD-4/R Component B 1 parts by weight (kg)

DESCRIPTION	VALUE	UNIT	NORM
Gel time, 100 g, at 25 C°, min.	10 - 30*	perc	HSZ 001
Density (at 25 °C)	1,90 - 2,00	g/cm^3	HSZ 004 (ISO 1675)
Viscosity at 25 °C	2000 - 4000	mPas	HSZ 010 (ISO 2555)
Potlife at 20 °C	appr. 10	min	HSZ 010 (ISO 2555)
Coating can be stepped on at 20°C-on	16	hours	-
Full hardening-time, at room-temperature	5	days	-
Coating can be mechanicaly loaded at 20°C, days	2	days	-
Minimal temperature of hardening (both the substrate and the air)	> + 5	°C	-
Suggested temperature of application	+ 15 - + 20	°C	-
Relative humidity during application at 20 oC, %	30-50	%	-
Max. allowed relative humidity during application at 20 oC, %	55	%	-
Below +10 °C Max. allowed relative humidity during application at 20 oC, %	50	%	-
Time before re-coating at 20 oC	appr. 8	hours	-

Suggested conditions of curing: room-temperature: +15°C-+20°C, humidity: maximum 50-55 % **

*** Attention!** Below 10-12 ºC hardening time increases significantly!
**** Attention!** In case of relative humidity above 55 - 60 % material may bubble! Thus application in such circumstances is not recommended!

Technical parameters of the hardened material*:

CHARACTERISTICS	VALUE	UNIT	NORM
Tensile strength	>10	N/mm^2	ISO 527-2
Elongation at break	>40	%	ISO 527-2
Compressive strength	>30	N/mm^2	ISO 604:2003
Shore D hardness, 15 s	40 - 44	-	ISO 868
Shore A hardness, 15 s	88 - 96	-	ISO 868
Appearance in case of min. 0,7 mm thickness	smooth, even		
Appearance in case of thin, max. 0,7 mm thickness	slightly „orange-peel”		
Bonding strength to concrete	the concrete tears up		
Water Impermeability (3 atm, 24 hours)	impermeable		
Chemical resistance	according to resistance list		
Combustibility	on non-combustible substrate hardly combustible		
Flame spreading	on non-combustible substrate moderate flame		

*Determined after the 7-day full cure time

Standard range of colours:
cc. RAL 1002, cc. RAL 1014, cc. RAL 3013, cc. RAL 5012, cc. RAL 6002, cc. RAL 6011, cc. RAL 6019, cc. RAL 6021, cc. RAL 7001, cc. RAL 7030, cc. RAL 7032, cc. RAL 7035, cc. RAL 7037, cc. RAL 9016, cc. RAL 9017.

Information on application:

5. ***Requirements to the substrate:***
   See *Application Instruction of Amerin Products*

6. ***Surface preparation:***
   See *Application Instruction of Amerin Products*

7. ***Mixing of components***
   See *Application Instruction of Amerin Products*

8. ***Application:***

Caution! The AMERIN UD-4/R is more sensitive to moisture content of the air than epoxy based materials. The moisture content of the air cannot exceed 60 % or coating blistering can take place. Therefore, during application the moisture content of the air should be measured continously.
For thinning of AMERIN UD-4/R, only a AMERIN H-2/PUR thinner should be used. Special attention should be paid not to add H-1/EP thinner because it spoils AMERIN UD-4/R.

8.1.Priming

The AMERIN UD-4/R should be applied exclusively on properly prepared and primed substrate within the overcoating time given in the primer's material data sheet. Suitable primers: AMERIN D-2GT or RMT or in case of asphalt AMERIN RA-1. If the application of AMERIN UD-4/R must be done after the overcoating time , that is allowed only after thorough sanding and vacuuming of the primer layer.

AMERIN® D-2/R may also be applied, but in this case the freshly applied material always has to be scattered with quartz sand (usually with Ø 0,1-0,5 vagy 0,4-0,8 mm), and AMERIN UD-4/R can be applied after 3-10 hours.

8.2. Equalization:

Instructions on smoothing can be read in the material data sheets of primers.

Recommended materials for smoothing: AMERIN UD-4/R, or D-2/R filled with quartz sand.

8.3. Overcoating:

The AMERIN UD-4/R can be applied the following day after the priming no. 8.1 or if necessary after the equalization no. 8.2.

Caution! On an equalized surface it is necessary to do a preliminary closing of pores with thixotropic AMERIN UD-4/R if you want to produce a self-levelling layer afterwards. This is made by mixing AMERIN UD-4/R with 2-4 % thickening (thixotropic) agent.

The material consumption, applied modifying agents (most of the time quartz sand in various fractions) and the method of application can be chosen in wide ranges depending on the intended use, aesthetic requirements and applicators' preferance.

From numerous possible solutions the following three typical examples are described:

8.3.1. smooth coating of the thickness of approx. 0.5 mm

On the prepared substrate primed with AMERIN D-2GT the AMERIN UD-4/R is applied with Teddy-roller and de-aired with spike roller.

Material consumption:

- AMERIN UD-4/R approx. 0,8 kg/m²

This thin coating is recommended especially on a good quality concrete of high strength that was smoothed free from defects!

8.3.2. smooth coating of the thickness of approx. 2 mm

For priming it is recommended to use AMERIN D-2GT then scattere with quartz sand (∅ 0,4-0,8 mm). The following day the excess sand should be swept off, sanded and vacuumed. Afterwards the AMERIN UD-4/R filled with 30 % quartz sand the size of ∅ 0,1-0,5 mm is applied with serrated trowel. The coating must be de-aired intensively and repeatedly by spike roller.

Material consumption:

- AMERIN UD-4/R approx. 2,0 kg/m²
- quartz sand (∅ 0,4-0,8 mm) approx. 1,0 kg/m² (for scattering of primer)
- quartz sand (∅ 0,1-0,5 mm) approx. 0,5 kg/m² (for filling of AMERIN UD-4/R)

8.3.3. anti-skid coating of thickness approx. 1,5-2 mm

For priming it is recommended AMERIN D-2GT then scattere with quartz sand ∅ 0,4-0,8 mm. The following day after sanding and vacuuming, the surface should be smoothed with AMERIN UD-4/R filled with 50-80 % quartz sand ∅ 0,1-0,5 mm then scattered right away with sand of the same type.

Material consumption:

- AMERIN UD-4/R approx. 0,7-0,9 kg/m²

- quartz sand (∅ 0,4-0,8 mm) approx. 1,0 kg/m² (for scattering of primer)
- quartz sand (∅ 0,1-0,5 mm) approx. 1,5-2,0 kg/ m² (for filling of AMERIN UD-4/R)

The AMERIN UD-4/R topcoat should be applied by Teddy-roller after repeated sanding and vacuuming after 8-24 hours.
Material consumption:

- AMERIN UD-4/R approx. 0,6-0,8 kg/m²

9. Packaging:
In 25 kg units (Component A: 22,5 kg, Component B: 2,5 kg)
Material can be supplied also in other packaging units on request.

10. Storage
6 months for both Component A and B (For information on storage see *Application Instruction of Amerin Products*)
Caution! As sedimentation of fillers may occur, Component A has to be mixed thoroughly before adding component B.

11. Work and Health Safety:
The cured material is physiologically harmless. Information on components can be found in *Installation Instructions* and *Material Safety Data Sheets.*

12. ***Fire protection classification:***
Class III. (both components are inflammable)

13. Cleaning:
The components and the uncured mixture can be removed with AMERIN H-2/PUR thinner. The cured material can be removed by mechanical means only.

14. Handling and disposal of waste
The cured material can be disposed of with domestic waste.
Remnants in the can must be handled as dangerous material and as residue of lacquer.

15. Licences and certifications:
CE licence:90-09-0002 TSÚS
ÉMI A-948/1995.

This technical data sheet has been composed to the best of our technical knowledge, experiences and experiments. It is, however, not binding. It has to be adjusted to the individual structure, application purpose and especially to local conditions.

Some technical changes have been made to this print medium. Older editions are invalid and may not be used anymore. If a technically revised new edition is issued, this edition becomes invalid.

For more information contact the manufacturer or his representative.

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