

## Lambert® Macproof Urea-1018

### Polyurethane-Polyurea Hybrid Membrane

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#### Description

Lambert Macproof Urea-1018 is a hand applied, solvent free, two component, self leveling, polyurethane polyurea hybrid based, elastomeric coating. This system can be applied to ramps as well as to horizontal surfaces with the on-site addition of a thixotrope.

Lambert Macproof Urea-1018 is used in a variety of general concrete waterproofing applications including balconies, terraces, podium decks and car park decks. It is also used in roofing applications.

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#### Uses

- ❖ Water proof construction :factories, mansions, barracks, etc
- ❖ Impervious project: external or internal walls, basements
- ❖ Indoor or outdoor floors, waterproof parking lots
- ❖ Indoor or outdoor aisles, square, stadiums waterproof floors, etc

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#### Advantages

- ❖ Excellent mechanical properties and resistant to puncture
  - ❖ Thermoset-does not soften at high temperatures
  - ❖ Remains elastic at low temperatures
  - ❖ Excellent crack bridging capability
  - ❖ Can be re-coated after only a few hours
  - ❖ Solvent free
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### Physical properties

Testing items	Testing results
Hardness	70 (shore A)
Tensile strength	150 (kgf / cm <sup>2</sup> )
Tear strength	55 (kgf / cm)
Elongation	700 (%)

### Performance data

Testing items	Testing results
Mixing ratio	Urea-1018A : Urea-1018B 10 : 18
Mixed density	1.28 (kg/m <sup>3</sup> at 23°C)
Mixed viscosity	5200 (cps at 23°C)
Pot life	35 min (at 10°C) 25 min (at 20°C) 15 min (at 30°C)
Re-coating interval	8 hrs above (at 10°C) 5 hrs above (at 20°C)
Maximum VOC limit value	135 g/L

### Green building material Polyurethane-Polyurea hybrid membrane standard

#### 1. Meets CNS6987 specification

Testing items	CNS 6987 standard specification	Testing results
Specific gravity	Label value $\pm 0.10$	1.28
Hardness (Hs)	60~90	77
Tensile strength (kgf/cm <sup>2</sup> )	40 $\uparrow$	129
Tear strength (kgf/cm)	10 $\uparrow$	55
Elongation (%)	200 $\uparrow$	804
Abrasion resistance (g)	3.0 $\downarrow$	0.2
Aging test	Hardness	Original value $\pm 5$ +2
	Retained tensile strength (%)	Before aging test 80% $\uparrow$ 131
	Retained tearing strength (%)	Before aging test 80% $\uparrow$ 120
	Retained elongation (%)	Before aging test 80% $\uparrow$ 107

## 2. Restricted substances

### (1) The heavy metal testing values is below standard

Composition	Testing standard (mg/L)
Total mercury	0.005
Total cadmium	0.3
Lead	0.3
Arsenic	0.3
Hexavalent chromium	1.5
Total copper	0.15
Total silver	0.05

Note 1: TCLP: Toxicity Characteristic Leaching Procedure.

Approved	Testing items	Values	Units	Testing methods	Note
Yes	Extracts of hexavalent chromium	ND	mg/L	NIEA R309.12C/ NIEA R201.14C	MDL=0.01
Yes	Extracts of total cadmium	ND	mg/L	NIEA R306.13C/ NIEA M111.00C/NIEA R201.14C	MDL=0.016
Yes	Extracts of total copper	0.032	mg/L	NIEA R306.13C/NIEA M111.00C/NIEA R201.14C	QDL=0.1
Yes	Extracts of total lead	ND	mg/L	NIEA R306.13C/NIEA M111.00C/NIEA R201.14C	MDL=0.030
Yes	Extracts of total silver	ND	mg/L	NIEA R306.13C/NIEA M111.00C/NIEA R201.14C	MDL=0.017
Yes	Extracts of total arsenic	ND	mg/L	NIEA R318.11C/ NIEA R201.14C	MDL=0.035
Yes	Extracts of total mercury	ND	mg/L	NIEA R314.12C/ NIEA R201.14C	MDL=0.0004

Note 2: Below the method detection limits were determined by “ND”. Indicating the method detection limits and units (MDL).

Note 3: If above method detection limit, but less than the quantifiable limit (QDL), identifying quantitative limits and units.

### (2) No asbestos

Sample name	Al values	Green building material specification value	Testing results
Polyurethane-Polyurea Hybrid Membrane	<0.09	≤1	OK

### (3) No toxic substance proclaimed by the Environmental Protection Administration

### 3. Health hazard items-dispersion rate

#### (1) Grade of healthy green building material

Emission grade	Dispersion rates of TVOC(BTEX) and Formaldehyde
E1 Emission	Both TVOC and Formaldehyde $\leq 0.005$ (mg/m <sup>2</sup> · hr)
E2 Emission	$0.005 < \text{TVOC} \leq 0.1$ (mg/m <sup>2</sup> · hr) or $0.005 < \text{Formaldehyde} \leq 0.02$ (mg/m <sup>2</sup> · hr)
E3 Emission	$0.1 < \text{TVOC} \leq 0.19$ (mg/m <sup>2</sup> · hr) and $0.02 < \text{Formaldehyde} \leq 0.08$ (mg/m <sup>2</sup> · hr)

#### (2) Formaldehyde (HCHO) <0.05 mg/m<sup>2</sup> · hr

Formaldehyde testing results		
Hr	Formaldehyde-dispersion concentration (mg/m <sup>3</sup> )	Formaldehyde-dispersion rate(mg/m <sup>2</sup> · hr)
48	0.002	N. D.
Formaldehyde testing period : 48 hrs. Dispersion rate : achieved		

#### (3) TVOC <0.19 mg/m<sup>2</sup> · hr

TVOC testing results		
Hr	TVOC-Dispersion concentrate(mg/m <sup>3</sup> )	TVOC-Dispersion rate(mg/m <sup>2</sup> · hr)
48	0.021	0.027
TVOC testing period : 48 hrs. Dispersion rate : achieved		

#### Application

- ❖ The surface should be dry, sound, all cracks should be patched
- ❖ The surface should be primed with PU or EPOXY primer
- ❖ Lambert Macproof Urea-1018 can be applied with trowel, mixing ratio is 10:18
- ❖ Lambert Macproof Urea-1018 is 28kg per set, 22 m<sup>2</sup> per 1 mm thickness, coverage rate is 1.3 kg/m<sup>2</sup>; 2 mm thickness 2.6 kg/m<sup>2</sup> can be applied 11 m<sup>2</sup>. Application thickness should not exceed 3 mm.

#### Packaging

28 kg / set

#### Storage

Shelf time is 12 months. Store in a cool, dry place. Prevent exposure to sunlight.

#### Limitation

1. Do not apply to damp substrate.
2. The surface should be clean and free from oil and grease.
3. Do not apply when temperature is below 5°C, rain is imminent or when RH is 85% above.

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