

# LITHOPLAST® DREN

TECHNICAL DATA SHEET PN 03-003-15  
MANUFACTURER: LITHOPLAST, s.r.o.



CZECH MANUFACTURER AND SELLER  
OF INSULATIONS AND PLASTIC  
PRODUCTS

This document applies to production, testing, receiving and delivery of LITHOPLAST® DREN product.

**LITHOPLAST® DREN** is a single-layer, perforated, studded membrane produced from high-density HDPE polyethylene without use of UV stabilizer. Perforated, studded LITHOPLAST® DREN membrane is available in form of roll and plate.

## 1. Technical description

### ▪ Material

Ultimate raw material for production of perforated, studded LITHOPLAST® DREN membrane is a high-density HDPE polyethylene. Colouring agent is added to input material in course of production.

### ▪ Lifetime

If the product is not exposed to UV radiation, its lifetime exceeds 50 years.

### ▪ Appearance

The membrane surface is smooth, with roughness within thickness tolerance limits. The membrane contains regular lines of studs. Membrane is provided with perforations between studs. 10mm wide edges are visible on sides of spread membrane. After unwinding, the roll can show undulation based on ambient temperature. This undulation does not have any impact on product quality, as well as on physical and mechanical features. The plate is provided with elevated, approx. 20mm big rim on all sides. Reference sample must be approved in advance in case of customer-specific requirements on product appearance.

### ▪ Color

Perforated, studded LITHOPLAST® DREN membrane is black.

## 2. Use

### ▪ Building industry

In building industry, the perforated, studded LITHOPLAST® DREN membrane is used for draining installations according to ČSN EN 13967 (the membrane for water accumulation and drainage in roof garden structures built on flat roofs, terraces, atria within buildings, building of green areas above underground parking areas, etc.).

Double sided, adhesive butyl rubber tape is used for connecting rolls in membrane folds. Permanent load must be applied on joint. Use of Rapid K1 stapling pliers with RAPID 24/8+ staples is recommended for joining of plates.

### ▪ Others

LITHOPLAST® DREN membrane can be used in gardening to retain water in studs. This leads to reduced consumption of water needed for irrigation and general increase of irrigation effectiveness.

## 3. Package

### ▪ Roll

Membrane is wound on rolls. The roll is tied in the middle with polypropylene tape.

### ▪ Plates

Plates are packed in 10-piece packages. The package is secured against separation using strong polypropylene tape.

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## 4. Identification

### ▪ Roll

Each roll is identified with CE label, information tag containing dimensions, and handout with information for end user.

### ▪ Plates

Each package of plates is identified with CE label, information tag containing dimensions, and handout with information for end user.

## 5. Handling and Storage

### ▪ Handling

Perforated, studded LITHOPLAST® DREN membrane must be transported in vehicles providing sufficient protection of load (e.g. box truck). During the transport, the load must be secured against movements and contamination.

### ▪ Storage

Perforated, studded LITHOPLAST® DREN membrane must be stored in area complying with ČSN 64 0090, i.e. dry, closed, warehouse protected from sunshine, at temperatures between +5°C and 35°C. On the site, the membrane must be protected against UV-radiation and contamination.

## 6. Warranty

- Warranty and complaints are governed by generally applicable regulations.

## 7. Disposal

- Polyethylene waste is classified as „other waste“ according to Notice of Ministry of the Environment (MoE) No. 381/2001. Pure waste can be recycled. Contaminated waste must be handled according to the type of contaminant in accordance with Waste Management Law.
- This product is not hazardous in terms of Law No. 350/2011 of Coll. on chemical substances and chemical preparations, as amended.

## 8. Tests, standards and technical specifications

- Product tests and certifications are realized according to harmonized standard ČSN EN 13967 (Waterproofing stripes and membranes - Plastic and rubber stripes, as well as membrane for waterproofing insulation and rubber stripes and membrane for insulation against pressurized water). Individual requirements on product testing and inspection are described in internal operation documents and Production Management System Manual.
- Quality management system is certified according to ČSN EN ISO 9001:2009.

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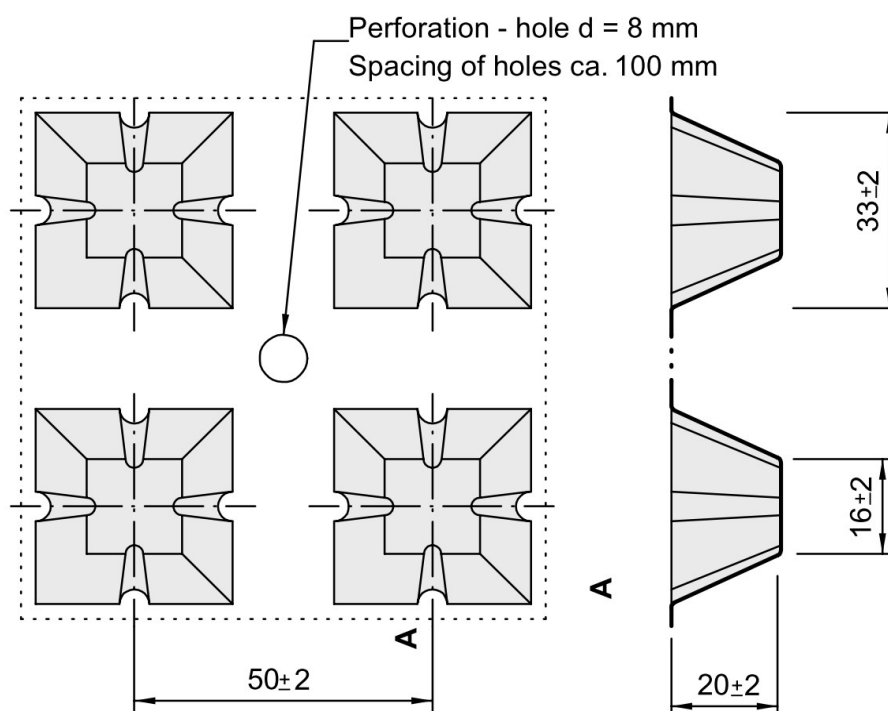
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## 9. Parameters of product packed in roll

Identification		20/0.8/1340	20/1.0/1340	Tolerance
Volumetric weight	kg/m <sup>3</sup>	950	950	±50kg/m <sup>3</sup>
Default membrane thickness	mm	0.8	1	±10%
Width	mm	1340	1340	±2%
Length	lin.meter	20	20	±0.5m
Stud height	mm	20	20	±2mm
Stud volume	l/m <sup>2</sup>	5	5	±10%
Volume of water retained in studs	l/m <sup>2</sup>	3.6	3.6	±10%
Air capacity of the gap	l/m <sup>2</sup>	15	15	±10%
Compression strength	N/mm <sup>2</sup>	0.10	0.14	breaking strength
Package	m <sup>2</sup>	26.8	26.8	±0.7m <sup>2</sup>
Surface density	kg/m <sup>2</sup>	0.81	1.01	±10%
Weight of package	kg	21.71	27.07	±10%

### Drawing of LITHOPLAST® DREN 20/0.8/1340, LITHOPLAST® DREN 20/1.0/1340



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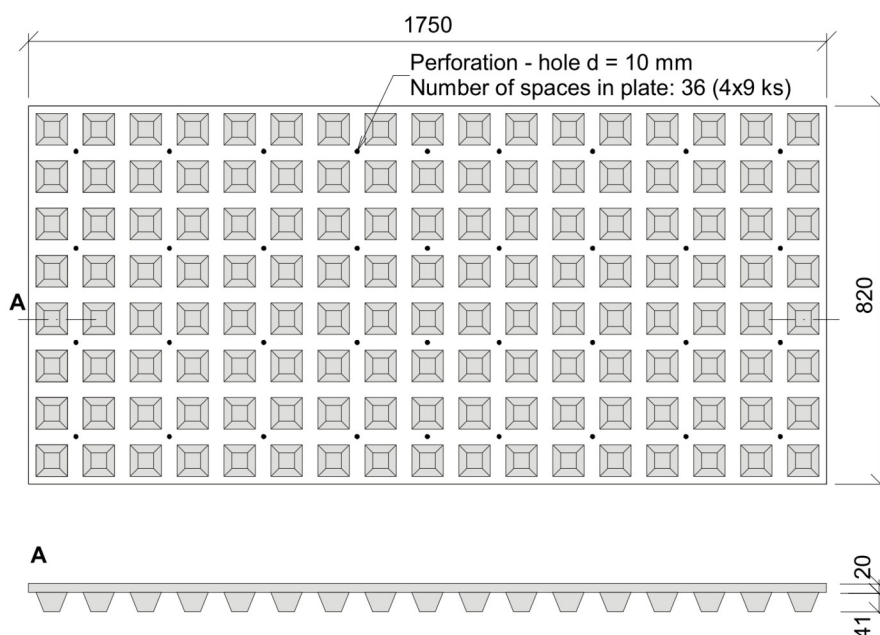
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## 10. Parameters of product in plate form

Identification		40/1.5	60/1.6	80/2.0	Tolerance
Volumetric weight	kg/m <sup>3</sup>	950	950	950	±50kg/m <sup>3</sup>
Default membrane thickness	mm	1.5	1.6	2.0	±10%
Width	mm	820	810	800	±4%
Length	lin.meter	1.75	1.75	1.75	±4%
Stud height	mm	41	61	78	±2mm
Stud volume	l/m <sup>2</sup>	10.6	16.4	20.8	±10%
Volume of water retained in studs	l/m <sup>2</sup>	8.3	12.2	15.7	±10%
Air capacity of the gap	l/m <sup>2</sup>	30.4	44.6	57.2	±10%
Compression strength	N/mm <sup>2</sup>	0.12	0.06	0.05	-
Package	pcs.	10	10	10	±0.7m <sup>2</sup>
Surface density	kg/m <sup>2</sup>	1.57	1.66	2.11	±10%
Weight of package	kg	22.53	23.53	29.54	±10%

### Drawing of LITHOPLAST® DREN 40/1.5



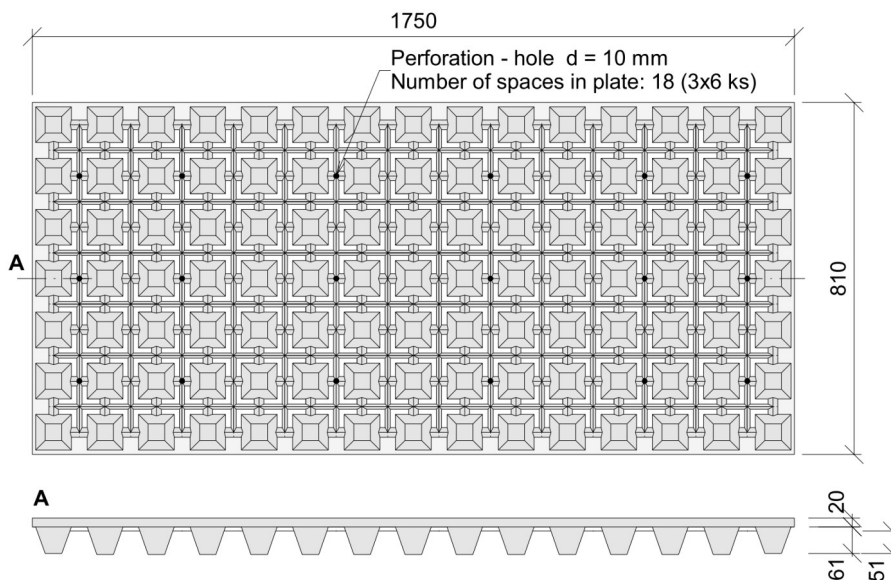
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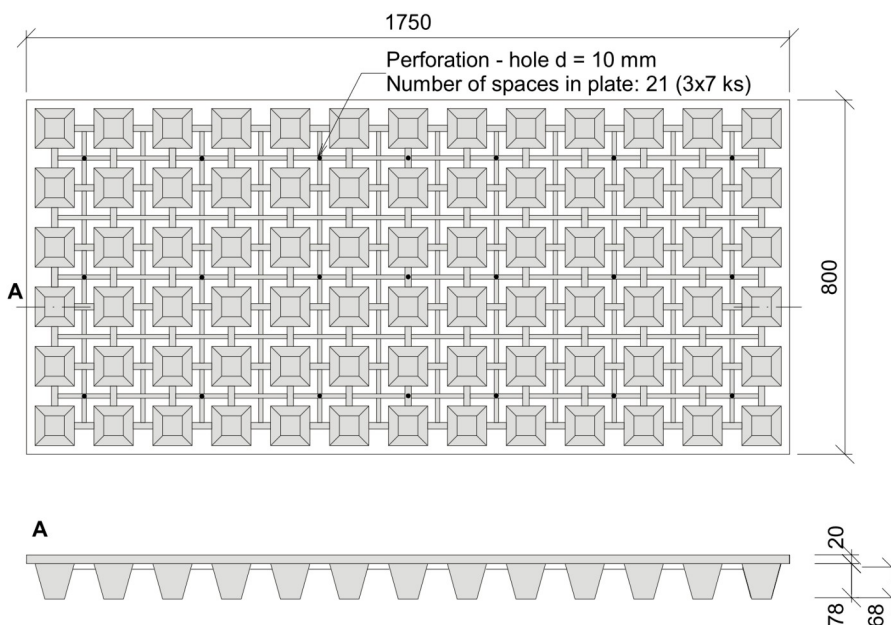
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### Drawing of LITHOPLAST® DREN 60/1.6



### Drawing of LITHOPLAST® DREN 80/2.0





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## 11. CE product label



1020

LITHOPLAST, s.r.o.  
Company ID: 63496305  
06  
1020 - CPR - 060024753

EN 13967

LITHOPLAST® DREN  
L01

Shaped polyethylene membrane, type V  
accumulation and draining membrane for roof gardens

Flammability	NPA
Water-tightness	NPA
Resistance against tearing	NPA
Strength of the joint	NPA
Resistance against impacts LITHOPLAST DREN 20/0.8	method A - max 1500mm method B - max 1300mm
Resistance to tensile stress	NPA
Resistance against static load	NPA
Durability	NPA
Hazardous substances	Ingredients do not contain any hazardous substances.



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## 12. MOREOVER, THE PRODUCT PROVES FOLLOWING FEATURES

Characteristic	Property	Technical specifications
Compression strength		
LITHOPLAST® DREN 20/0.8	max 0.10N/mm <sup>2</sup>	ČSN EN ISO 604
LITHOPLAST® DREN 20/1.0	max 0.14N/mm <sup>2</sup>	
LITHOPLAST® DREN 40/1.5	max 0.12N/mm <sup>2</sup>	
LITHOPLAST® DREN 60/1.6	max 0.06N/mm <sup>2</sup>	
LITHOPLAST® DREN 80/2.0	max 0.05N/mm <sup>2</sup>	
Resistance to tensile stress of semiproduct		
method A (thickness 1 mm)		ČSN EN 12311-2
longitudinal direction	700N/50mm	
transversal direction	700N/50mm	
Resistance to tensile stress of semiproduct		
corpuscle according to ISO 1798		ČSN EN 12311-2
longitudinal direction	19N/mm <sup>2</sup>	
transversal direction	19N/mm <sup>2</sup>	
Drawability, longitudinal	230%	
Drawability, transversal	230%	

