

# PIRA-FORM™

## FORMWORK LINER

**Durability**

**Performance**

**Aesthetics**

**Economical**



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# PIRA-FORM™



## Why use the PIRA-FORM™ textile liner for formwork?

Conventional methods for placing concrete in formwork often lack sufficient water and air drainage, causing water and air to accumulate on the concrete surfaces, between the formwork and concrete. This results in a concrete surface that is less dense and more porous. When a concrete surface is insufficiently dense and more porous, harmful substances such as road salt and other contaminants found in the environment can easily penetrate the concrete surface. Once these corrosive substances are absorbed by the concrete surface, a cycle of rust begins to form on the reinforcing steel found in the concrete, resulting in disastrous consequences.

Installation of the formwork liner PIRA-FORM™ allows to drain the excess water and to evacuate the entrapped air accumulated at the surface of the concrete (between the formwork and the concrete). Consequently, the formwork liner allows a greater concrete surface density. A dense concrete surface means a more impenetrable concrete surface, making it more resistant to chlorides and corrosion. Installation of the PIRA-FORM™ liner significantly contributes to extending the life span of the concrete structure.

In addition to lengthening the life span of concrete structure, the use of PIRA-FORM™ formwork liner has many economical advantages (see ECONOMICAL ADVANTAGES). With no extra costs, the use of PIRA-FORM™ assures an aesthetically pleasing and uniform finish.



# LABORATORY RESULTS

#	TESTED ELEMENTS	NORM	WITHOUT PIRA-FORM™	WITH PIRA-FORM™	COMMENTS
1	Surface hardness	ASTM C805	29.0 MPa	38.6 MPa	Hardness of surface improved with PIRA-FORM™ liner
2	Percentage of voids at surface	MTQ	1.85%	1.55%	Less surface voids with PIRA-FORM™ liner
3	Direct traction resistance (average of two trials)	CSA A23.2-6B	1.1 MPa	1.3 MPa	Direct traction resistance improved with PIRA-FORM™ liner
4	Resistance to scaling after 50 cycles	ASTM C672	0.0 kg/m <sup>3</sup>	0.0 kg/m <sup>3</sup>	Similar results with PIRA-FORM™ liner
5	Permeability of chloride ions (average of two trials)	ASTM C1202	932 C	692 C	Permeability of chloride ions reduced with PIRA-FORM™ liner
6	Penetration resistance of a chloride solution	AASHTO T259			Penetration resistance of a chloride solution significantly improved with PIRA-FORM™ liner
	0 to 12 mm		0.490%	0.379%	
	13 to 25 mm		0.123%	0.044%	
	26 to 30 mm		0.017%	0.007%	
	39 to 50 mm		0.017%	0.003%	

# ECONOMICAL ADVANTAGES

	WITHOUT PIRA-FORM™	WITH PIRA-FORM™
FORM OIL	REQUIRED	NOT REQUIRED
CLEANING OF FORMWORK	REQUIRED	NOT REQUIRED
TREATED PLYWOOD FOR FRAMEWORK	REQUIRED	NOT REQUIRED
WATER CURING JUTE	REQUIRED	NOT REQUIRED
GRINDING AND REPAIRS	REQUIRED	NOT REQUIRED
NEW PLYWOOD	REQUIRED	NOT REQUIRED
PLYWOOD LIFESPAN	DECREASES	INCREASES

PIRA-FORM™

Durability  
Performance  
Aesthetics  
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**Durability • Performance • Aesthetics • Economical**

# PIRA-FORM™ FORMWORK LINER

## SPECIFIC INSTRUCTIONS

### PRODUCT DESCRIPTION

PIRA-FORM™ is a textile that serves as a formwork liner conceived to increase the durability, performance and aesthetics of exposed concrete. The use of the formwork liner results in a dense and aesthetically pleasing concrete finish. PIRA-FORM™ is available in 80m<sup>2</sup> rolls; (1.6m large by 50m long).

### FEATURES & BENEFITS:

The formwork liner PIRA-FORM™ will give the following benefits:

- It extends the initial structure maintenance costs considerably.
- It annuls the water contamination when used in water treatment plants, bridges, and marine structures, as no formwork release agents are required.
- The w/c ratio is very low at surface.
- It enhances the quality of the concrete finish and aesthetics.
- PIRA-FORM™ considerably reduces bug holes and blemishes.
- Density and hardness of the concrete surface is increased.

### PLACING OF THE PIRA-FORM™ FORMWORK LINER

DO NOT apply any chemical products on the PIRA-FORM™ liner. Avoid any concrete splatters on the liner, as this may produce unwanted results and an unattractive finish. Never apply curing compounds, formwork oils, or release agents on the PIRA-FORM™ liner. Should openings need to be cut onto the formwork after the liner has already been installed, make sure that the liner is well held in place around the perimeter of the opening, in order to assure that no concrete gets in between the liner and the formwork. The formwork liner PIRA-FORM™ is biodegradable and environmentally friendly. It is a simple and economic way of protecting steel reinforcement in concrete from corroding elements.

### PRECAUTIONS TO TAKE WHILE PLACING CONCRETE

When placing the concrete liner, take all necessary precautions to ensure that the formwork liner PIRA-FORM™ remains clean and dry until the concrete pour. During the concrete pour, avoid having concrete splatters to dry on the liner. Scrape off any concrete splatters and clean the liner as needed during the pouring of concrete. The formwork liner PIRA-FORM™ must be dry during the pouring of concrete.

### OTHER USES FOR THE PIRA-FORM™ FORMWORK LINER

The formwork liner can be used to cover concrete during the concrete water cure.



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## GUARANTEE

Pirandello Equipment and Tools guarantees that the PIRA-FORM™ formwork liner is free from all defects and adheres to the norms described in this promotional brochure. It is the responsibility of the user to ensure that the product is free of all apparent defects before installing it. Pirandello will replace free of charge any defective product that has not yet been installed. Pirandello takes no responsibility for products that have already been installed. It is up to the user to determine if the product can be adapted to suit the purpose, the user assumes all responsibilities.

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