

PETROUREA COATINGS

EXTREMELY
RESISTANT
ELASTOMERIC
COATINGS THAT
CURE IN SECONDS



PETROUREA COATINGS



PETROSEAL is a member of the PDA Europe.

PETROPolyurea products offer ultimate protection to versatile coating needs.

With Petroseal as your urea supplier, you receive:

- Complete polyurea system from primers and sealers to topcoats
- Local technical service, support and training
- Partner with comprehensive corrosion protection knowledge gained through 70 years

We provide a full range of services to help our customers with urea, from product, chemistry, and application training and professional technical support.

We can support you with any questions: selecting the right polyurea system for your application, safety, equipment, troubleshooting, and maintenance.

Our technical service professionals have vast experience in industrial painting and they are happy to help you with urea and its special requirements.

OUR CUSTOMER PROMISES

Technically
superior
surfaces

Unique
technical
service

Reliable
supply

Consistent
quality

Local
presence

PETROUREA OFFERS EXCELLENT SURFACE PROPERTIES WITH A VARIETY OF BENEFITS

- **FAST SETTING** – curing within seconds, walkable within less than a minute, fully cured in 24 hours, immersion tolerant in 1-3 days;
- **EXTREMELY DURABLE** – withstands high abrasion, impacts, and extreme mechanical stress;
- **WATERPROOFING** – great for waterproofing and immersion: seamless waterproof film, excellent crack bridging ability, excellent adhesion to metal and concrete;
- **EXTREMELY RESILIENT** – elongation up to 1000 %, maintaining elasticity even at -40°C;
- **CHEMICAL RESISTANCE** – enhanced chemical resistance can be achieved with the appropriate topcoats;
- **CORROSION PROTECTION** – excellent protection against mechanical impacts minimizes damages to the anticorrosive paint system and underneath, secures corrosion protection;
- **~100% VOLUME SOLIDS;**
- **INDOOR AND OUTDOOR USE;**
- **SHADES** – PETROUREA is available in different shades as per agreement – for colour consistency, we recommend using the same batch product.



PETROUREA COATING SYSTEMS: SUITABLE FOR MANY SUBSTRATES AND OBJECTS IN MULTIPLE INDUSTRIES

Explore this brochure section further for information about our petrourea coating systems and their areas of application.

Polyurea can be used to protect many kinds of surfaces and complex structures. Substrates such as concrete, steel, bitumen, wood, wood composites, glass fibre composites, PVC, foam materials, and geotextiles can be protected with polyurea.

Teknos has developed comprehensive polyurea coating systems for different needs according to application area, environments, substrate, stress circumstances, and needed tolerance. For selected roof and concrete applications, we offer both pure polyurea and modified polyurea coating systems.

FOR ADVICE ON THE FULL PETROUREA SYSTEM
BEST SUITED TO YOUR PROJECT,
CONTACT OUR SALES TEAM

ROOFS

BITUMINOUS,
METAL SHEETING,
TILE (E.G. CLAY, CONCRETE)

WHY CHOOSE PETROUREA

- Seamless waterproofing, also for green roof structures
- Extended service life with durability
- Reflecting heat with light colours
- Fire safety – no hot work
- No lifting of heavy bitumen rolls or mass removing old bitumen
- Easier to spray on complex shapes e.g. throughlets

Application	System type	Feature	Note	Full system description
NEW ROOFS & MAINTENANCE	Modified Petrourea PETROUREA 400-800	Durable, Cost-effective	Where colour fastness e.g. non-fading, and UV resistance is required, non-fading topcoats can be applied.	Contact our sales to have the complete coating system with correct sealer/primer and topcoat.
MAINTENANCE	Pure Petrourea PETROUREA 320-800	Extremely durable		

CONCRETE STRUCTURES

FLOORS

WHY CHOOSE PETROUREA

- Surface strength increases, prevents wearing and tear
- Chemical resistance
- Waterproofing
- Higher point load durability
- Excellent crack bridging ability
- Prevents the absorption of dirt and oils
- Slip resistance
- Improved appearance

Application	System type	Feature	Full system description
HEAVY TRAFFIC E.g. in Industrial use	Pure Petrourea PETROUREA 300-800	Extremely durable	Contact our sales to have the complete coating system with correct sealer/primer and topcoat.
LIGHT TRAFFIC E.g. Business premises	Pure Petrourea PETROUREA 300-800 Modified Petrourea PETROUREA 400-800	Extremely durable Durable, Cost-effective	

CONCRETE STRUCTURES

Coating systems for mechanical protection and waterproofing of various concrete structures.
E.G. WALLS, YARD DECKS, PARKING LOTS

WHY CHOOSE PETROUREA

- Waterproofing
- Extended service life with durability
- Colour options for creating colour-coded parking lots

Application	System type	Feature	Full system description
UV-PROTECTED: CONCRETE STRUCTURES PROTECTED FROM UV-RADIATION E.g. Waterproofing yard decks, interiors of parking lots	Pure Petrourea PETROUREA 300-800 Modified Petrourea PETROUREA 400-800	Extremely durable Durable, Cost-effective	Contact our sales to have the complete coating system with correct sealer/primer and topcoat. Further information on the surface preparation requirements is available in the product data sheet. For details, please ask your Teknos representative.
UV-EXPOSED: CONCRETE STRUCTURES UNDER UV-RADIATION E.g. Walls and socles	Pure Petrourea PETROUREA 300-800 Modified Petrourea PETROUREA 400-800	Extremely durable Durable, Cost-effective	

BRIDGES

WHY CHOOSE PETROUREA

- Less traffic interruption during renovation
- Extended service life
- Complete coating system
- SILKO approved coating system*

Application	Full system description
WATERPROOFING Seamless waterproofing beneath asphalt.	*SILKO approved system = Approved according to standardized SILKO bridge repair directives issued by The Finnish Transport Agency. Details of the applicable systems and approvals are available from your Petrourea representative.

STEEL STRUCTURES

The systems are divided into three categories according to the level of mechanical stress.

WHY CHOOSE PETROUREA

- Excellent abrasion resistance
- Impact protection for anticorrosive paint underneath
- Chemical resistance
- Fast coating procedure, quick turnaround
- Friction modification
- Sound dampening – noise reduction

Application	System type	Full system description
HARD MECHANICAL STRESS E.g. ramps, spillway gates in hydropower stations, boat landings in offshore turbine foundations	Pure petrourea PETROUREA 300-800	Contact our sales to have the complete coating system with correct sealer/primer and topcoat. Further information on the surface preparation requirements is available in the product data sheet. For details, please ask your Teknos representative.
MEDIUM MECHANICAL STRESS E.g. truck beds	Pure petrourea PETROUREA 300-800	
LIGHT MECHANICAL STRESS E.g. gangways, stairs, pillars	Pure petrourea PETROUREA 300-800	

INDUSTRIAL TANKS AND BUNDS

Coating systems are based on immersion types and exposures.

WHY CHOOSE PETROUREA

- Chemical resistance
- Excellent abrasion resistance
- Impact protection for anticorrosive paint underneath
- Fast coating procedure, quick turnaround
- Friction modification

Application	System type	Full system description
TANKS, CHEMICALS; CONTINUOUS IMMERSION	Pure petrourea PETROUREA 300-800 Chemical Exposure System – for details on applicable chemicals, please ask your Teknos representative.	Contact our sales to have the complete coating system with correct sealer/primer and topcoat.
TANKS, WATER; CONTINUOUS IMMERSION	Pure petrourea PETROUREA 300-800 System suitable for water immersion – max. 90°C (clean water).	
BUND LININGS, OCCASIONAL, SHORT TERM EXPOSURE TO INDUSTRIAL CHEMICALS	Pure petrourea PETROUREA 300-800 For details on applicable chemicals, please ask your Teknos representative.	

STEEL IN SPLASH ZONE & OFFSHORE APPLICATIONS

E.G. BOAT LANDINGS IN OFFSHORE WIND TURBINE FOUNDATIONS, SPILLWAY GATES IN HYDROPOWER STATIONS

WHY CHOOSE PETROUREA

- Extended service life with durability
- Impact protection for anticorrosive paint underneath
- Available according to colour requirements

Application	Note	Full system description
PROTECTION AGAINST MECHANICAL IMPACTS Minimizing damages to the anticorrosive paint system on the foundation.	petrourea can be matched to the colour requirements.	Details of the applicable systems and approvals are available from your Teknos representative.



OTHER AREAS

Petrourea helps to protect a variety of objects. Petrourea is also widely used in areas such as: polystyrene sculptures and decorative elements, swimming pools, truck beds, heavy machinery, transportation vehicles, wood structures. If you are interested in how petrourea could be used in your project, please consult our petrourea professionals.



ARCLIGHT AB's polystyrene sculptures and decorative elements are protected with PETROUREA 300 to make ordinary polystyrene ultra-strong and extremely weather-resistant, which makes it possible to use this light material in creation of impressive props.



Modvion's innovative wooden turbine towers' glulam modules are coated with petrourea for various advantages: it improves mechanical protection, and most importantly for this object, it brings waterproofing and weather resistance.

WHY CHOOSE PETROUREA

- Weather, moisture & elements protection
- Structure strengthening & extended service life
- Enabling innovative design



WHEN COATING WITH PETROUREA

- There are two rapidly reacting and curing components that need the right conditions in order to achieve the desired outcome.
- Special two-component spraying equipment required.
- Typically hot-sprayed at 70-85 °C.
- Due to the curing time of a few seconds, there is no room for errors.
- Personal protective equipment necessary.

HIGHLY-SKILLED PROFESSIONAL CONTRACTORS ARE REQUIRED FOR SUCCESSFUL PROJECTS

PETROUREA TRAINING



We train all our new polyurea customers to excel in all aspects of polyurea usage, including product chemistry, theory, and practical issues such as equipment, safety, spraying technique, and troubleshooting.

In addition to local polyurea training, we often participate in the first sprayings at the customer site to successful start and smooth first deployment of polyurea coating.

CHECKLIST FOR SELECTING A SUITABLE PETROUREA SYSTE

Petrourea technical service professionals help you to find the most suitable coating system for your project. Checklist for factors to consider when discussing the options:

✓ **Required approvals or certifications**

✓ **Exposure:**

- Chemical stress
- Mechanical stress
- Immersion
- Temperature
- UV-radiation exposure

✓ **SubstrateAType**

✓ **Conditions when spraying e.g. temperature, humidity , surroundings**

✓ **Project schedule factors**

✓ **Required properties:**

- Waterproofing
- Moisture and weather protection
- Mechanical protection
- Higher surface friction
- Sound dampening – noise reduction
- Impact protection for the anti corrosive paint system underneath
- Elasticity and ability to and maintaining it even at -40 °C
- Crack bridging ability
- Abrasion resistance



WIDE PETROUREA PRODUCT RANGE

Petroseal has a wide range of petrourea options to suit your needs:

PETROSEAL 300 PURE PETROUREA

- CE-marked for coating of concrete (EN 1504-2).
- Fire classification: EN 13501-1: E_{fl}.
- Recommended for surfaces which require abrasion resistance and/or chemical tolerance.

PETROSEAL 320 PURE PETROUREA

- CE-marked for coating of concrete (EN 1504-2).
- Recommended for coating and waterproofing roofs.
- Great for concrete structures and floors for heavy traffic.

PETROSEAL 360 PURE PETROUREA LONGER CURING TIME

- Recommended for coating floors that are not exposed to chemicals.
- Recommended for floors that require longer gel time because of better levelling and appearance.

PETROSEAL 400 MODIFIED PETROUREA

- CE-marked for coating of concrete (EN 1504-2).
- Recommended for coating and waterproofing roofs and concrete structures.
- Cost-effective option for environment with lighter mechanical stress, for example floor surfaces with no heavy traffic.

PETROSEAL 340 FIRE-RETARDANT PETROUREA

- Fire classification: CEN TS 1187: B_{ROOF} T2 EN 13501-1: C_{fl}-s1.
- CE-marked for coating of concrete (EN 1504-2).
- Used for waterproofing and improving physical resistance for roofs and concrete structures on objects which require a fire resistance rated coating.

PETRO SEALER 200

- Used as a primer in elastomeric coating systems.

PETROSEAL HARDENER -SERIES

- Used as hardeners for PETROSEAL products.

PETROSEAL TOP COATS

- Selected PETROSEAL top coats for enhanced UV resistance.

TECHNICAL FEATURES OF PETROUREA

COMPARISON OF TECHNICAL FEATURES IN DIFFERENT VERSIONS

Property	Standard	Unit	PETROSEAL 300-800	PETROSEAL 320-800	PETROSEAL 340 FR	PETROSEAL 360-800	PETROSEAL 400-800
Gel time		s	5	10-15	5	30-45	10-15
Hardness (24h, Shore A/D)I	ISO 868		98/52	90/40	98/60	97/51	91/35
Tensile strengthI	ISO 527-2M	mPa	20	17	14	12	15
ElongationI	ISO 527-2	%	380	420	300	410	400
Nominal ElongationI	ISO 527-2	%	600	800	350	650	500
Tear strengthI	ISO 34-1:2015 C	N/mm	65	55	75	50	30
Impact resistance, RTI	ISO 6272-2	kg*cm	> 200		>200	>200	>200
Impact resistance, -20°CI	ISO 6272-2	kg*cm	>200	>200		>200	>200
Taber abrasion, H22, 1000 g, 1000 rI	ISO 7784-2	mg	40	28	30	71	25
Water vapor permeabilityI	ISO 7783	g/m2/day	11	22	6	11	12
Water absorption	65°C / 10 d	%	2	6		7	6

PETROSEAL 300—800: EXCELLENT CHEMICAL RESISTANCE

Chemical resistance @ +23°C if not otherwise noted	Standard	Minimum durability without major changes
Distilled waterI	ISO 2812-1	3+ years
Sea waterI	ISO 2812-1	3+ years
NaOH 50%I	ISO 2812-1	2+ year
Ammonia 20%I	ISO 2812-1	2+ year
Sulphuric acid 20%I	ISO 2812-1	2+ year
Acetic acid 10%I	ISO 2812-1	1+ year
Hydrochloric acid HCl 10%I	ISO 2812-1	2+ year

WE MAKE THE WORLD LAST LONGER

Petoseal is a global coatings company with operations in more than 20 countries in Europe, Asia, and the USA. Petoseal is one of the leading suppliers of industrial coatings with a strong position in retail and architectural coatings.

Petoseal wants to make the world last longer by providing smart, technically advanced paint and coating solutions to protect and prolong. Petoseal always works in close cooperation with its customers. Petoseal was established in 1948 and is one of Finland's largest family-owned businesses.
For further information, visit www.petoseal.com.



WATCH OUR POLYUREA VIDEOS:

youtube.com/petoseal/petrourea

