LOCKWELL

TECHNICAL DATA SHEET

LOCKWELL P-515

Potable Water Certified Pure Polyurea Membrane

Product Description

Lockwell P-515 is a 100% pure polyurea with a gel time off (15-20 seconds) designed for constant immersion and formulated to ensure excellent wetting and adhesion of concrete and most steel substrates.

Lockwell P-515 is Potable Water approved AS 4020 for tanks, general waterproofing, commercial construction and infrastructure. Lockwell P-515 is formulated for maximum adhesion to most substrates with superior waterproofing benefits. Unlike many sheet or liquid membranes P-515 can withstand long term water ponding and will not deteriorate. Low permeability combats many osmotic problems associated with waterproofing and tank coatings in constant immersion. Due to P-515 rugged performance it is commonly used in exposed environments subject to other trades and facilities abuse during construction, whilst maintaining its durable waterproofing integrity.

Lockwell P-515 is a 100% solid, flexible, aromatic, two component 1:1 pure polyurea with superior low permeability, extreme UV protection and waterproofing features. P-515 is a high performance general use pure polyurea for most applications.

Features

- AS/NZS 4020 Potable Water Certified
- Prevent growth of aquatic micro-organisms
- Zero VOC
- No toxic vapors
- Odorless
- Meets USDA criteria
- 100%Solids
- Seamless
- Low water vapor permeability
- Flexible at low temperatures
- Non-reactive
- Excellent thermal stability
- Good chemical resistance
- Can be used without primer in some applications (particularly steel)
- Used with or without reinforcement in transitional areas

Application Area

- Potable Water Tanks
- Waste Water Tanks
- Food Processing Plants
- Cold Storage Facilities
- Warehouse Flooring
- Mining/Landfill heap/leach containment
- Refineries
- Power Plants
- Fertilizer Plants
- Paper & Pulp Mills
- Airport
- Hotel & Casinos
- Residential Applications
- Trafficable Parking Decks
- Structural Steel
- Marine Environment
- Primary containment
- Secondary Containment
- Geotextile rehabilitation composite

Technical/ Performance Data

Potable Water application, AS/NZS 4020	Certified and Passed
Hardness, ASTM D-2240-91	45-52 Shore D
Mix Ratio by Volume	1A : 1B
Gel/Set Time	15-20 seconds
Tack-free Time	30-60 seconds
Maximum Recoat Window	12 Hours
Taber Abrasion Resistance; C-17,1000cycles, 1kg	15 mg
Tensile Strength ASTMD412	15-20 MPa
Elongation, ASTM D412	370% - 470%
Tear, ASTM D624-86	75-80 kN/m
Service Temperature (Dry)	-30°C to 120°C
Water Vapor Permeability	0.00036 perm-inch
Fire resistance (spread of flame, Class rating, etc.)	Class II UBC
Viscosity at 70°C in Cps	A-120, B-190
Cytotoxic and Mutagenic activity, AS/NZS 4020	Passed
Extraction of Metals, AS/NZS 4020	Passed
Growth of aquatic micro-organisms, AS/NZS 4020	Passed

Typical Wet Properties

Material Property	Component A (Isocyanate)	Component B (Resin)
Density (kg/L)	1.11	1.00
Viscosity (cps @ 25°C)	600	400
Mix ratio (by volume)	1 : 1	
Solids (mixed) by volume	100%	
Flash Point (Pensky Martens Closed Cup)	>93°C	
Theoretical Coverage	1L = 1mm thick over 1m^2.	

Application Guideline

Introduction

This coating is designed for application through heated, plural component, high pressure reactor spray equipment capable of supplying material at the spray gun at a minimum of 2000 psi spray pressure and material temperature of 60-80°C (depending on geographical location). Graco plural component reactors using impingement mix tips in plural component air and mechanical purge guns (air purge recommended) are typically used.

If there is any change in color or consistency of the material, the sprayer should stop immediately and troubleshoot the equipment. Filters should be checked periodically for any build-up of material.

Application Temperatures

Minimum recommended material and substrate temperatures are 24°C and 10°C respectively. Maximum recommended substrate

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temperature is 50°C. Wider temperature windows can be achieved but please consult your technical representative for specific advice.

Cure Time and Recoat Time

Development of a full cure may take up to 24 hours. Material maybe recoated when tack-free. Old, sound coatings should be lightly abraded to remove any oxidized material and cleaned thoroughly prior to recoat. Consult your technical representative for options regarding treatment of day joints and coating over cured product.

Minimum recommended material and substrate temperatures are 24°C and 10°C respectively. Maximum recommended substrate temperature is 50°C. Wider temperature windows can be achieved but please consult your technical representative for specific advice.

Cure Time and Recoat Time

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System Specification

Primer

Use Lockwell P-601 Epoxy Primer as the under layer primer which fully complied and certified AS/NZS 4020:2005. Lockwell CP for pretreatment for hydrostatic and contamination purge has been approved under AS/ 4020 as a composite system with Lockwell P-515 and EP-601.

Refer to Lockwell Systems technical representatives and distributors to verify specific application recommendations.

Recommended Thickness

Abrasion resistant	: 3 mm min. thickness
Corrosion & Chemical resistant	: 2 mm min. thickness
Waterproofing	: 1.5 mm min. thickness

Note: Contact your local distributor for application specific recommendations.

Number of Coats

This product can be applied in thicknesses from 1mm up to several cm in one monolithic coat. Do not exceed recommended recoat windows.

Sometimes two or more coats are applied using different colors as a visual wear indicator. The additional coats should be applied as soon as possible after the preceding coat has gone tack-free, but no longer between coats than the specified recoat window of 2 hours.

Note: Contact your distributor for reactivation requirements for coating over cured product.

Top Coat

An aliphatic system such as Lockwell UP-115 solar resistant PU (or) Polyaspartic polyurea (or) "other LW approved" may be required for some applications, particularly where color stability is required (this product is UV stable, but not color stable). Contact your distributor for a range of options. The top coat shall be applied as soon as possible following the final coat reaching tack-free status, with a maximum time between coats as specified by the recoat window of this product

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Storage and Handling Precautions

The Part A should be kept properly closed and stored indoors in a well-ventilated area under normal factory conditions. Storage at room temperature (20-25°C) also provides a convenient viscosity for handling.

Storage at low temperatures (below10°C) is not recommended because it may lead to some crystallization: this material must be protected from frost. Drum heaters may be used with the heat setting at low.

The material should be agitated to uniformly distribute the heat. In no circumstances should the material be heated above 80°C during preconditioning.

Storage temperatures above 50° Care not recommended since they can accelerate the formation of insoluble solids and also increase the viscosity over extended storage intervals.

Under the recommended storage conditions and in properly sealed containers, the components have nominal storage life of 12 months. If either component is opened and partially used, it should be purged with nitrogen or desiccated air and resealed or refilled into smaller containers to their maximum volume.

Packaging

Standard 400L kits, 2 x 200L Drums per kit. Other sizes may be available on request.

Chemical Resistance

The following technical information and data should be considered representative or typical only and should not be used for specification purposes. Contact Lockwell Systems technical representatives and distributors for specific recommendations for chemical resistance prior to specifying these products in this application type.

Acetic Acid (10%)	R	Phosphoric Acid (10%)	R
Ammonium Hydroxide (20%)	R	Potassium Hydroxide (10%)	R
Ammonium Hydroxide (50%)	RC	Potassium Hydroxide (20%)	RC
Hydraulic Fluid	R	Sodium Hydroxide (10%)	R
Hydrochloric Acid (10%)	R	Sodium Hydroxide (50%)	RC
Gasoline (unleaded)	R	Sulphuric Acid (15%)	R
Hydrogen Sulphide (gas)	R	Waste water	R
Diesel Fuel (Kerr-McGee)	C	Sea Water	R
Motor Oil, Brake Oil	RC	Water (Tap) @ 80°C	R

R - Resistant,
RC - Slight surface change, discoloration with no loss of hardness

Additional Information - Disclaimer

The information provided herein, especially recommendations for the usage and the application of our products, is based upon our knowledge and experience. Due to different materials and equipment used, as well as varying working conditions and environments beyond our control we strictly recommend carrying out intensive trials to test the suitability of our products with regard to the required processes and applications. This data sheet is provided free of charge and we do not accept any liability with regard to the above information or with regard to any verbal recommendation, except for cases where we are liable of gross negligence or false intention.

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