

Royal Coatings
Potable Water Tank Specification

1 SURFACE PREPARATION

Apply Easy Prep by airless sprayer Leave for 20/30 minutes. Remove Easy Prep by High Pressure Water Cleaning 5000 PSI supplemented with SSPC –SP2 and SP3 Hand and Power Tool Cleaning on all areas of rust scale and loose paint. Pump out the tanks and ventilate until dry.

2 APPLICATION CONDITIONS

Substrate minimum temperature, should not be lower than 3C (39F)

- a) Air temperature should not be lower than 4C (40F)
- b) Relative humidity should be lower than 95%
- c) Product temperature should not be lower than 22C (72F)

3 COATING SPECIFICATION

3.1 FULL COAT PRIMER – Royal Coatings Easy Prime 100% Solids Epoxy

Film build:	WFT 75-125 microns (3-5 mils) DFT 75-125 microns (3-5 mils)
Pot Life:	20C/68F -80-90 minutes 35C/95F – 45 minutes
VOC:	0
Thinning	DO NOT THIN
Colour:	Haze to bright blue green

3.2 TOP COAT - Royal Coatings Easy Flex 100% Solids Epoxy

Film build:	WFT 200-300 Microns (12-14 Mils) DFT 200-300 Microns (12-14 Mils)
Pot Life	20C/68F - 60 minutes 35C/95F - 45 minutes
VOC:	0
Thinning	DO NOT THIN
Colour:	Light Beige

Royal Coatings

Potable Water Tank Specification

1.1 SCOPE OF CONTRACT

1.2 SURFACE PREPARATION: Apply Easy Prep by pump sprayer. Leave for 20 minutes SSPC - SP12 High Pressure Water Jetting 10,000 psi supplemented with SSPC -SP2 and SP3 Hand and Power Tool Cleaning on all areas of rust scale and loose paint. All existing coatings must have adhesion testing minimum 250 psi

1.3 De-Salinate all surfaces prior to painting.

Areas to be cleaned with HOLDTIGHT 102 to remove chlorides and chloride content shall be verified to no more than 7 ug/cm² on the surface or no more than 10ppm in the water extractable, utilizing chloride extraction and chemical analysis methods that comply with SSPC-SP12/ NACE # 5, Section B 1.3-C and B 1.4-B

2.0 MATERIAL DESCRIPTION

2.1 All coating products on this project shall be manufactured by the same manufacturer and be compatible with one another.

2.2 All coating products in this specification will require certification from the manufacturer that the coating can be applied:

- a) Substrate minimum temperature, should not be lower than 3C (39F)
- b) Air Temperature should not be lower than 4C (40F)
- c) Product temperature should not be lower than 22C (72F)

NOTE: When application is below 33 Degrees F, the surface must be verified to be free of any frozen water by a third party inspector. The use of a 20X-power magnifier is recommended.

2.3 All coating products shall be manufactured at the factory ready for application. The addition of any thinners or additives in excess of manufacturers' literature is not permitted. Field tinting will not be permitted.

2.4 Containers shall be new and labelled showing the following:

- a) The manufacturers name.
- b) The exact title of the paint.
- c) Date of manufacture.
- d) Manufacturers batch number, specification number and lot number, if appropriate.

3.1 PHYSICAL PROPERTIES

Coatings supplied must conform to the following minimum requirements

3.2 SPOT OR FULL COAT PRIMER – Royal Coatings Easy Prime

Volume solids:	100%
Film build:	WFT 75-125 microns (3-5 mils) DFT 75-125 microns (3-5 mils)
Pot Life	20C/68F -80-90 minutes 35C/95F – 45 minutes
VOC:	0
Thinning	DO NOT THIN
Colour:	Haze to bright blue green

3.3 TOP COAT -

Royal Coatings Easy Flex

Volume solids:	100% minimum
Film build:	WFT 75-125 microns (3-5mils) DFT 75-125 microns (3-5mils)
Pot Life	20C/68F – 80-90 minutes 35C/95F - 45 minutes
VOC:	0
Thinning	DO NOT THIN
Colour:	Light Grey or Red-Brown

4.1 PERFORMANCE PROPERTIES

The system identified in this specification meets or exceeds the following test requirements. All proposed equivalents must certify compliance to same requirements.

4.2 Corrosion Resistance, 90 Day Salt Water Immersion 50C No Effect

4.3 Adhesion Pull Test ASTM –D4541 (1090 psi)

- 4.4 Reverse Impact, ASTM –D2794**
- 4.5 Elongation ASTM –D522 >34%**
- 4.6 Heat Resistance Continuous 150C (302F)**
- 4.7 Exudation of Amine Blush None**

PRE-APPROVED PRODUCTS

5.1 Manufacturer
Royal Coatings Inc.
Belle Chasse
Louisiana, USA
70037

5.2 Distributors

K & D Pratt Limited
21 Frazee Ave
Dartmouth NS
B3B 1Z4

K & D Pratt
126 Glencoe Drive
Mount Pearl, NL
A1N 4S9
Ed Jackson 1-709-763-3651 ed.jackson@kdpratt.com

6.1 STANDARD OF QUALITY/ APPROVED EQUIVALENTS

- 6.2** All paint systems as specified herein are designed solely as a "standard of quality ".
An approved equivalent may be used providing a single manufacturer produces it as a
standard, regularly manufactured product.
- 6.3** Equivalent paint systems must have a minimum of two years' field exposure on
similar structures. In addition, they must meet the "Physical Properties" in **Section**
3.0
And "Performance Properties" in **Section 4.0.**

Should the proposed manufacturer's product require a higher degree of surface

Preparation or a greater DFT than specified herein, that degree of surface preparation and DFT shall apply, and the contract prices will not be changed to reflect these increases.

- 6.4 Any proposed equivalents must be submitted for approval by Engineer at least 7 days prior to bid closing date.

7.0 APPLICATION REQUIREMENTS

- 7.1 All painting to be performed under this contract shall be in accordance with the best practices of the trade, in conformance with the manufacturer's recommendations, and with applicable portions of the Steel Painting Council Specification SSPC-PA 1.
- 7.2 All surfaces cleaned to bare metal shall be coated with the specified prime coat the same working day.
- 7.3 Paint film thickness measurements must be made during application, utilising an approved wet film thickness gauge, or after each coat has cured using an approved magnetic or digital dry film gauge. Where thickness measurements fall below specified minimum, additional applications shall be made as necessary to meet the thickness required, at no additional cost to project owner.
- 7.4 Sufficient time shall elapse between successive coats to permit them to dry properly for recoating. See specific product data sheets for proper cure times.
- 7.5 Apply coatings by brush, roller or spray utilizing approved equipment that is standard to the industry according to the "Application Information" section of the Wasser catalogue.
- 7.6 Prior to painting all surfaces shall be blown free of all surface dust to the satisfaction of the Engineer.
- 7.7 Particular attention shall be given to edges, crevices, nuts, bolts, rivets and weld seams.

END

Easy Prep



WATER BASED SURFACE CONDITIONER

Easy Prep is highly recommended when grit blasting is not possible. When properly used, Easy Prep leaves a super clean surface. It will dramatically improve the recoatability of aged epoxies and other paints.

INSTRUCTIONS:

Dilute Easy Prep about 1:1 or 2:1 with fresh water.

Apply liberally to the old coatings and let stand 15-20 minutes. High pressure water wash with rotating nozzle only or vigorous scrubbing with hard bristle brush and make sure all the Easy Prep is removed.

Hand scrubbing will assist in removing heavier deposits of dirt. Use full strength on areas with visible residue and repeat the pressure washing.

Technical Data

Packaging	5 Gal (19 liter) plastic pails
Color	Clear
Flash Point	None
Ph	11 -12
Biodegradability	Complete
Hazardous Content	None

CAUTION:

Easy Prep is an alkaline cleaner and care should be taken to prevent eye contact or prolonged skin contact. Wear protective eye shields and waterproof gloves. See the MSDS for information.

For further information contact: Royal Chemical Corporation
2705 Concord Road
Belle Chasse, LA 70037 USA
Phone: (504)392-8811 Fax: (504) 392-2173

EasyPrime



FLEXIBLE EPOXY PRIMER

- ◆ 100% solids - no VOCs
- ◆ OPS compatible
- ◆ Non flammable
- ◆ Very Low odor after mixing
- ◆ Forever flexible
- ◆ Surface tolerant
- ◆ Strong Wetting capability
- ◆ Excellent water resistance
- ◆ Penetrates porous surfaces
- ◆ DFT 75-100 microns (3-4 mils) or higher until the surface is saturated
- ◆ Compatible with most shop primers



DRINKING WATER SYSTEM COMPONENTS
ANSI/NSF 61
5N16, 6N21

EasyPrime is designed to be a low viscosity epoxy primer that wets out most surfaces. Its excellent flexibility allows it to virtually eliminate reverse impact damage common to most brittle curing epoxies. EasyPrime's chemistry allows it to penetrate a clean tight rusty surface. Since EasyPrime does not contain solvents there will not be any chance for solvent entrapment.

EasyPrime was primarily designed for use in ballast tanks of ships and barges. It should always be top coated with a second coat of EasyPrime or with EasyFlex. For potable water use top coat with EasyFlex

SURFACE PREPARATION:

EasyPrime is designed to go over a minimum ST-2 or SP-2 prepared surface. All mill scale, sheet scale, grease, loose rust, dust and excess moisture must be removed. Well adhering paints may be left if they cannot be removed.

Always wash the surface with fresh water to remove soluble salts before applying the EasyPrime.

Ventilate at anytime the working area ensuring safe conditions and dry surfaces.

HANDLING:

Do not store in direct sunlight. Mix Part A and Part B for three minutes with slow agitation. The mixture will get noticeably thinner. Apply with a brush, roller or airless sprayer. As EasyPrime is not fully pigmented, thin applications will appear transparent or hazy in color. As film thickness increases the color will appear as a solid bright blue green.

APPLICATION CONDITIONS:

Substrate minimum temperature should not be lower than 3°C (39°F). Air temperature should not be lower than 4°C (40°F). Relative humidity should be lower than 95%. EasyPrime product temperature should not be lower than 22°C (72°F).

SAFETY INFORMATION:

Keep paint containers away from open flames. Always avoid prolonged contact with skin. In confined spaces always use a full-face shield with an organic cartridge and completely cover all exposed skin. The use of a poly-coated jumpsuit is recommended. Refer to safety analysis report by EFEH & Associates and EasyPrime's MSDS.

Physical Data:

Finish	Haze to bright blue green color
Curing Mechanism	Chemical reaction
Volume Solids	100%
VOC	0
WFT recommended	75 – 125 microns (3 – 5 mils)
DFT recommended	75 – 125 microns (3– 5 mils)
Theoretical Coverage	20 – 13 M ² /liter (800 – 500 sg.ft/gal)
Pot Life	@ 20°C/68°F – 80-90 minutes @ 35°C/95°F – 45 minutes
Dry to Touch at 20°C	8 Hours
Thinning	Do not thin
Flash Point Closed Cup	
Part A	above 100°C - 212°F
Part B	above 100°C – 212°F
Application Method	Brush, roller, airless (US 15-19/metric 0.381-.584) and adjust pressure as required. Apply in a cross hatch way ensuring good wetting of the rough steel surfaces.
Packaging Size	10 liters mixed material
UN Shipping	Non hazardous, non regulated
Shelf Life	36 Months
Recoat Window	@24° C (75°F) - 21 days @35°C (95°F) - 10 days

Performance

2000 Hour Salt Fog – ASTM B117	Pass
Adhesion Pull Test – ASTM D4541	1700 psi
Exudation or Amine Blush	Pass
Conical Mandrel Bend –ASTM D522	>34%
Water Absorption – ASTM D570	0.9%
Water Vapor Transmission ASTM D1653	.0026 Perm inches (.0043 Perm Cm)
Heat Resistance Continuous	150°C (302°F)

CAUTION:

We cannot assume any responsibility for surface preparation and application if not supervised by our authorized inspectors.

Manufactured by: ROYAL COATINGS, INC. , BELLE CHASSE, LA 70037 USA
Phone: 504-392-8811 Fax: 504-392-2173
Email: info@royalcoatings.net
www.royalcoatings.net

EasyFlex



FLEXIBLE EPOXY PAINT COATING

- 100% Solids – No VOCs
- OPS compatible
- Colors – light grey or red-brown
- Non-flammable
- Very low odor after mixing
- Forever flexible
- Surface tolerant
- Low temperature cure without additives
- Good chemical resistance
- Long term water resistance
- Excellent abrasion resistance



DRINKING WATER SYSTEM COMPONENTS
ANSI/NSF 61
5N16, 6N21

EasyFlex is designed for use as a multipurpose epoxy or wherever a flexible epoxy may be needed. It is suitable for use in ballast tanks, drinking water, dry cargo, engine rooms, hulls and deck coatings. EasyFlex should be applied over our EasyPrime epoxy.

SURFACE PREPARATION

For new building, most shop primers are acceptable after sweep blasting SA1.0. Always apply Royal's EasyPrime first.

Soluble salts, fat and all other foreign matter shall be removed enhancing long term performance.

Sharp edges and rough welds should be broken or smoothed so that EasyFlex will cover 100% of the steel surfaces. For older surfaces hydro-blasting is usually sufficient. See EasyPrime data sheet for further information.

HANDLING:

Do not store in direct sunlight. Mix Part A and Part B for three minutes with slow agitation. The mixture will get noticeably thinner. Apply with a brush, roller or airless sprayer(56:1). Heavier film builds may require multiple coats when brushing or rolling only. Before mixing the paint temperature should be 72°F or 22°C at a minimum

APPLICATIONS CONDITIONS:

Substrate minimum temperature should not be lower than 3°C(38°F). Air temperature should not be lower than 4°C(40°F) and rising. Relative humidity should be lower than 90%.

SAFETY INFORMATION:

Keep Paint containers away from open flames.

Always avoid prolong contact with exposed skin.

In confined spaces always use a full-face shield with an organic cartridge and completely cover all exposed skin.

Refer to safety analysis report by EFEH & Associates, EasyFlex's MSDS and Royal's Safety Recommendations for confined space use.

POTABLE WATER USE ONLY:

Let cure 48 hours @ 20°C (68°F) or above. At lower temperatures let cure 72 hours. Rinse the tanks with fresh water before use.

Physical Data

0.584)	Finish	Light Grey or Red-Brown
	Curing Mechanism	Chemical reaction
	Volume Solids	100%
	VOC	0
	WFT	200 - 300 microns (8 - 12 mils)
	DFT	200 - 300 microns (8 - 12 mils)
	Theoretical Coverage	5.0 – 3.3M ² /liter (200 – 133 sq./U.S. Gal)
	Pot Life	@20°C/68°F - 60 minutes
		@35°C/95°F - 45 minutes
	Dry to Touch at 20°C	8 – 10 Hours
	Thinning	Do Not Thin
	Flash Point Closed Cup	
	Part A	>100°C (212°F)
	Part B	>100°C (212°F)
	Application Method	Brush, roller, airless (US 17-23/Metric 0.432-
		And adjust pressure as required. 56:1 minimum required; apply in a cross hatch way ensuring good wetting of the rough steel surfaces if any
	Packaging Size	10 liters mixed material
	UN Shipping	Non hazardous, non regulated
	Shelf Life	36 Months
	Recoat Window	@24°C (75°F) – 10 days
		@35°C (95°F) - 5 days
Performance		
Adhesion Pull Test	ASTM-D4541	76.7KG/cm ² (1090 psi)
Reverse Impact	ASTM-D2794	3.05 Joules (27 inch pounds)
Elongation	ASTM-D522	>34%
Exudation of Amine Blush		None
Weight Gain (30 day immersion)		
	Diesel	Less than 0.5%
	Crude Oil	Less than 0.5%
Heat Resistance Continuous		150°C (302°F)
90 Day Salt Water Immersion @ 50°C		No Effect

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