LIFELAST®
Innovation Through Formulation

THERMALAST®

APPLICATION SPECIFICATION SHEET

EFFECTIVE: 6/2/15

I. Scope

A. This specification defines application requirements of ThermaLast to concrete, ferrous and non-ferrous substrates and over-coat areas.
B. The coating material described in this specification can be applied in either a shop or field environment.
C. The substrates to be considered by this specification are as follows:
    1. Ferrous Metals
    2. Concrete
    3. Non-ferrous Metals
    4. Fiberglass
    5. Wood

II. Definitions

A. SUBSTRATE – all surface area that is to be coated under the direction of this specification.
B. APPLICATOR – the company selected by the END USER to apply coatings to the internal and external surfaces of PARTS.
C. MANUFACTURER – the Company responsible for the chemical formulation and characteristics of the coatings applied to PARTS (LifeLast, Inc. is the Manufacturer that is composed within these specifications).
D. INSPECTOR – the company or person selected by the END USER to ensure quality control of the work and adherence to this specification, where applicable.
E. END USER – the structure owner.

III. Additional Requirements

A. All specifications and standards mentioned in this document form part of this specification. The applicator shall ensure that a copy of this specification is kept at the coating site and shall ensure that their workers fully understand each specification and standard listed below.
B. The following standards shall be a part of this specification.

Society for Protective Coatings (SSPC)	
SSPC-SP 1	Solvent Cleaning
SSPC-SP 3	Power Tool Cleaning
SSPC-SP 6/ NACE No. 3	Commercial Blast Cleaning
SSPC-SP 10/ NACE No. 2	Near-White Metal Blast Cleaning
SSPC-SP 11	Power Tool Cleaning to Bare Metal
SSPC-SP 13/NACE No. 6	Surface Preparation of Concrete
SSPC-VIS 1	Pictorial Surface Preparation Standard
NACE International	
RP0287-2002	NACE Standard Recommended Practice for Field Measurement of Abrasive Blast Cleaned Surfaces Using Replica Tape
ASTM International	
ASTM C109/C109M-11b	Standard Test Method for Compressive Strength of Hydraulic Cement Mortars
ASTM D4259-88(2012)	Standard Practice for Abrading Concrete
ASTM D4263	Standard Test Method for Indication of Moisture in Concrete
ASTM F1869	Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride
International Concrete Repair Institute (ICRI)	
CSP 1-4	Concrete Surface Profile

IV. Surface Preparation

A. Prior to commencement of work, all parts shall be visually inspected.

B. Surface imperfections such as burrs, gouges, protrusions and weld splatter shall be removed by filing or grinding.

C. Prior to abrasive blast or power-tool cleaning the substrate, all contaminants such as dirt, dust, oil and/or grease must be removed in accordance with SSPC-SP 1.

D. Prior to abrasive blasting or grinding, the substrate shall be dry and at least 5°F (3°C) above the dew point to prevent oxidation of the part after cleaning. The applicator shall use a contact or laser thermometer to monitor these environmental requirements.

E. All parts that are not to be abraded shall be adequately protected.

F. Preparation Methods

1. Steel Substrates— The applicator shall ensure the proper surface finish is attained by regular checks and the SSPC-VIS 1 Standard. Profile depth shall be checked using replica tape, profilometer and a spring micrometer (NACE RP0287-2002)

a. Larger parts and/or structures (> 50 ft²) – the substrate shall be abrasive blasted in accordance with the NACE No. 2/SSPC-SP10 specification for steel.
b. Smaller surface areas (< 50 ft²) – may be power tool abraded using an angle grinder with either a metal grinding disk (for steel) or 24-grit 3M grinding disk (for coating or concrete), MBX Bristle Blaster or equivalent in accordance with SSPC-SP11. Grinding should be done in such a way to achieve the roughest surface possible. *Note: profile, particularly with power-tool preparation, should be deep enough such that it is very noticeable when scraping the end of a fingernail across the profile grooves*

2. Priming Requirements: For applications on ferrous substrates or where temperatures will exceed 250° F, the use of a primer is recommended. Application of the primer should be accomplished as per the instructions of the primer Manufacturer. Please contact LifeLast for a list of recommended primers.
3. Concrete Substrates: Remove laitance, curing compounds, sealers and other contaminants and provide a surface profile in accordance with ASTM D4259, ICRI CSP 1-4. The applicator shall ensure the proper surface finish is attained by regular checks in accordance with the SSPC-SP 13 Standard.
4. Non-ferrous and Other Substrates: Should be abraded to remove gloss and any non -bonded or poorly-bonded coatings.

G. Cleaned surfaces shall be dry-air blasted and either brushed or vacuumed to remove dust and debris prior to coating, and shall be coated before any contamination occurs. Any cleaned steel showing contamination shall be re-prepared prior to coating.

V. Coating Application

A. The coating shall be applied according to the proceeding guidelines.
B. Thinning is not recommended.
C. The coating thickness shall be specified by the end user or manufacturer. The recommended thickness per coat for ThermaLast is 15-25 mils. The applicator shall measure and record coating thickness in accordance with ASTM.
D. The ambient temperature and substrate temperature shall conform to the recommended parameters outlined in the *ThermaLast Technical Data Sheet*. The applicator shall use a contact or laser thermometer, a psychrometer and psychrometric charts, or equipment that provides equivalent accuracy, to monitor these environmental requirements.
E. Refer to ThermaLast Technical Data Sheet for spray equipment requirements.
F. For application of ThermaLast to ferrous metal substrates above 250°F, an application of primer is recommended prior to applying ThermaLast. Contact LifeLast for a list of such primers.
G. Substrate shall be clean, dry and free of any contaminants that may adversely affect the adhesion of the coating system. When coating over a primer, ensure the primer has been applied and allowed to cure per the primer manufacturers' technical data sheet.

H. Application shall be done in a professional manner, mitigating runs and sags and providing complete coverage on all surfaces. Application shall be accomplished in a manner that achieves as smooth and uniform of a coat as possible.

I. Refer to the *ThermaLast Technical Data Sheet* for cure time required, before applying multiple coats or placing system into service.

VI. Inspection and Testing

A. Visual

1. Coating shall be uniform in color. The coating shall be visually inspected and found to be free of blisters, cracks, pinholes and missed areas.
2. Sags and runs shall be kept to a minimum.

B. Coating Thickness

1. Wet Film—The coating thickness shall be measured using a wet film thickness gage according to ASTM D4414. The thickness shall be measured during application for every 50 ft^2 of covered area. A minimum of one measurement per section shall be taken.
2. Dry Film
   a. Steel—Performed in accordance with SSPC-PA 2, Level 1.
   b. Concrete—Performed in accordance with ASTM D6132. Minimum thickness shall be in accordance with SSPC-PA 2, Level 1.

VII. Coating Repairs

Coating repairs may be made with ThermaLast.

Appendix 1: Approved Spray Application Equipment for ThermaLast®