

FMG



# HIGH TEMPERATURE CORROSION PROTECTION

BLACK VELVET™, FACTORY MANIFOLD GRAY™, POR-20®

## PRODUCT INTRODUCTION

High temperature corrosion occurs due to the high temperature interaction of gases, liquids, or solid contaminants. The initiation and growth of cracks under service conditions dramatically limits the lifecycle of high temperature components. Typically, high temperature resistant coatings fall due to the lack of adequate corrosion resistance and tolerance to cracking and corrosive gases. POR-15, Inc. researched and developed a line of high temperature coatings that can withstand prolonged exposure up to 1400 F / 760 C but also resist cracking and prevent the formation of oxide scale that propagate into substrates.

## PRODUCT DESCRIPTION

BLACK VELVET™, FACTORY MANIFOLD GRAY™ AND POR-20™ are high temperature resistant coatings designed for use on metal substrates subject to elevated and prolonged temperatures.

- **BLACK VELVET™** is the only black industrial paint that can withstand temperatures up to 1200 F / 649 C that retains its color.
- **POR-20™** is capable of withstanding 1400 F / 760 C. It is also our most moisture and weather resistant high temperature coating.
- **FACTORY MANIFOLD GRAY™** is a non-gloss coating engineered to look like cast iron. Heat resistant up to 1400 F / 760 C.

## PRODUCT CHARACTERISTICS

**Boiling Point:** 312 – 385 degrees F

**Vapor Density:** 5.00

**Solubility in Water:** Negligible

**Specific Gravity (H2O=1):** 0.9076

**Flash Point:** 108 degrees F

**Auto Ignition Temp:** 475

**Flammable limits in Air % by Volume:**

- LEL Lower: 0.77

- UEL Upper: 6

**Vapor Pressure (mm Hg):** 3.9 PSIA @ 163\*

**Reactivity in Water:** None

**Appearance & Odor:** Clear & Characteristic

**Specific Gravity (H2O=1):** 0.9076

**Auto Ignition Temp:** 475 degrees F

**Method Used:** TCC

**Extinguishing Media:** Foam, CO2, Chemical, Sand

## RESISTANCE GUIDE

| RESISTANCE TO:   | P20 | FMG | FV |
|--|-----|-----|----|
| Temperatures up to 1200 F / 649 C                              | X   | X   | X  |
| Temperatures up to 1400 F / 760 C                              | X   | X   |    |
| Cracking   | X   | X   | X  |
| Oxidation through air contaminants                             | X   | X   | X  |
| Oxidation through steam  | X   | X   | X  |
| Carbon compounds: carbon dioxide, carbon monoxide, and methane | X   | X   | X  |
| Sulfur or combustion gases: gasoline, coal, and fuel oil       | X   | X   | X  |
| Salts that remove protective scale                             | X   | X   | X  |
| Ashes that remove protective scale                             | X   | X   | X  |

NOTE: P20 = POR-20™ FMG = Factory Manifold Gray™ BV = Black Velvet™

## SURFACE PREPARATION

Surfaces to be coated must be clean, dry, and free from oil, grease, and any other coating which cannot resist high temperatures (paints, varnishes, lacquers, metal prep coatings, etc). Surgical-type gloves should be worn for handling to keep natural body oils off the prepared surface.

Sandblasted surfaces are ideal, as are wire-brushed or sanded or filed surfaces. The following sandblasting methods are recommended:

SSPC-SP2: HAND TOOL CLEANING

SSPC-SP3: POWER TOOL CLEANING

SSPC-SP5, NACE 1: WHITE METAL BLAST CLEANING

SSPC-SP6, NACE 3: COMMERCIAL BLAST CLEANING

SSPC-SP10, NACE 2: NEAR WHITE BLAST CLEANING

**WARRANTY:** All statements made on any product label, product manual, product data sheets, technical data charts or specification charts are accurate to the best of our knowledge. The products and information are intended for use by persons having skill and know how in the industry at their own discretion and risk. POR-15 Inc warrants only that its products represented herein meet the formulation standards of POR-15 Inc. POR-15 Inc. warrants that its products are free of defects and is not liable for incidental, special, consequential, or indirect damages of any kind, including, but not limited to, loss of anticipated profits, business opportunity, or other economic loss arising out of the use of services or products received from POR-15 Inc. even if POR-15 Inc. has been advised of the possibility of such damage. It is the customer's responsibility to ensure the accuracy, compliance with applicable statutes or regulations, and fitness of purpose of any product or construction information received from POR-15 Inc. prior to use thereof.