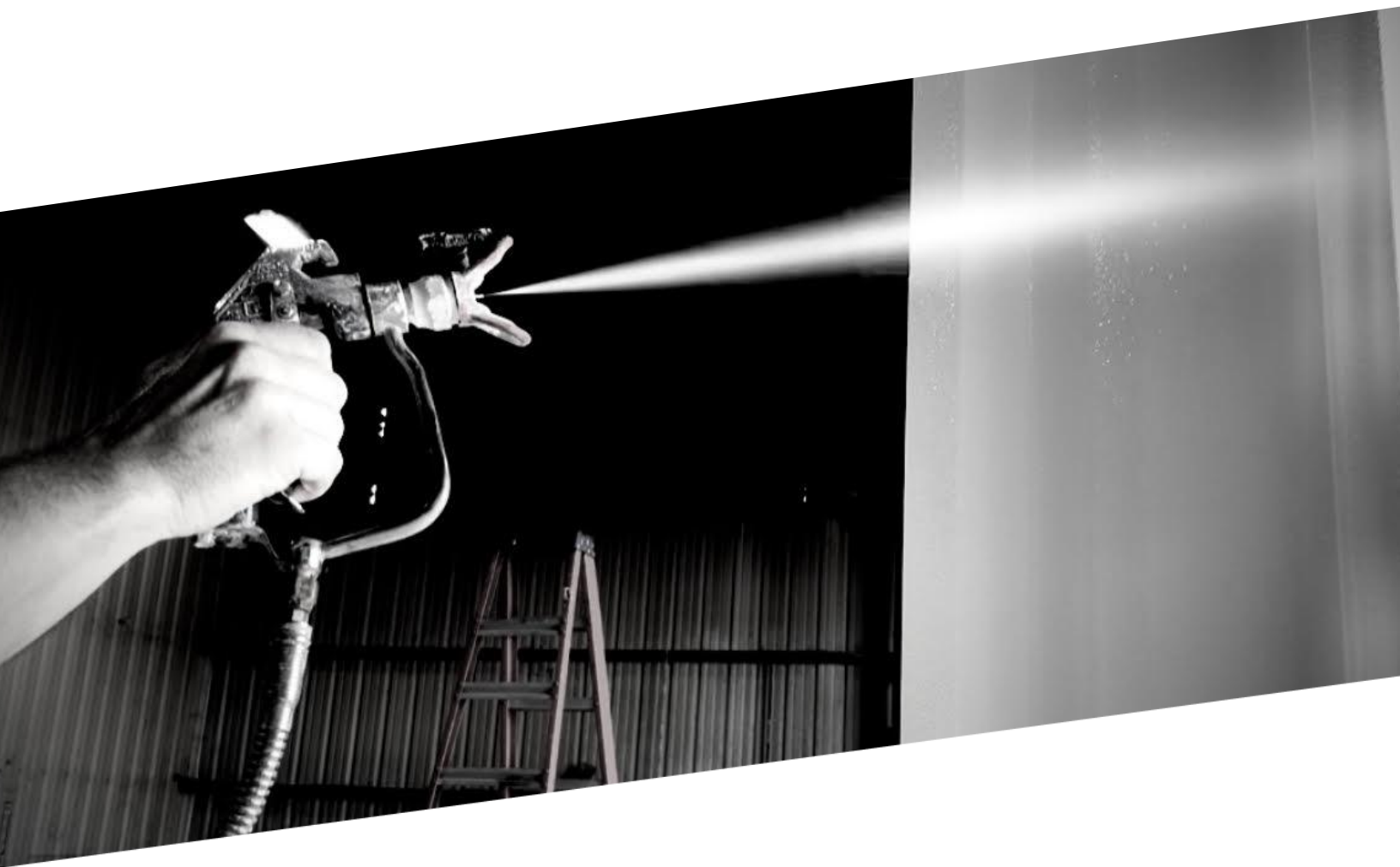




CONTEGO HIGH SOLIDS RFB APPLICATION GUIDE



1. GENERAL DESCRIPTION

Contego High Solids RFB is a water based intumescent coating designed to protect various substrates against the effects of fire. It has been tested to UL 263 / CAN S101 / ASTM E119 standards and is approved for interior conditioned space, interior general purpose, and exterior use. For exterior weatherability, an approved exterior topcoat is required. In exterior environments, the Contego HS RFB, must be protected from the elements, which include rain, snow, and high humidity prior to the application of the approved topcoat.

It is important to adhere to the following application methods for achieving correct thickness, application, and finish of the product being applied.

2. MATERIAL STORAGE

2.1 STORAGE TEMPERATURE

Before use, Contego HS RFB must be stored in the original unopened pails. The pails must be protected from direct sunlight and maintained at a temperature between 45°F (7°C) and 100°F (40°C) during shipping and storage.

The product must not be stored at or below freezing temperatures. **DO NOT ALLOW THE MATERIAL TO FREEZE**

2.2 SHELF LIFE

When stored properly, Contego HS RFB has a shelf life of 24 months from date of manufacture. See label for expiry date. Do not use expired product.

3. WORK SITE CONDITIONS

3.1 REQUIRED SERVICES

Prior to application, the applicator should ensure that proper services, safety, and site conditions exist for the application process. These requirements will include some or all the following: power, ventilation, water, scaffold, masking, lighting, waste disposal, as well as serviced spray machines and adequate spares.

3.2 APPLICATION TEMPERATURE

Contego HS RFB must only be applied when the ambient and substrate temperature is between 50°F (10°C) and 100°F (40°C). The steel surface must be dry and, for best results, the surface temperature should ideally be 4°F (2°C) above the dew point. A minimum substrate and air temperature of 50°F (10°C) must be maintained during and for at least 72 hours after application. The dew point can be determined with any commercially available dew point meter. If necessary, the contractor shall provide enclosures, air flow and conditioned air to maintain proper temperature and humidity levels in the application areas.

3.3 HUMIDITY

The relative humidity can be determined using any commercially available hygrometer. If the relative humidity exceeds 75%, precautions should be taken to prevent condensation from forming on the steel surface during application. As Contego HS RFB dries through the evaporation of water, it can cause the humidity of the surrounding area to rise. Adequate ventilation must be provided and maintained during application and curing process to ensure proper drying. Sufficient air exchange is the most significant factor to achieve good and fast drying.

In line with good painting practice, application should not take place in conditions which are deteriorating, e.g. where the temperature is falling and is likely to go below 10°C (50°F) or where there is a risk of condensation forming on the steel.

Caution: Do not apply Contego HS RFB on wet surfaces or if condensation is present.

4. SAFETY

4.1 PERSONAL PROTECTIVE EQUIPMENT (PPE)

- Protective clothing
- Suitable eye protection
- Gloves

Additional advice for respiratory protection:

- Ensure adequate ventilation on work site
- Read Safety Data Sheet and Product Instructions For Use Environmental precautions

4.2 WASTE

Do not discharge Contego HS RFB into drains, water courses or soil. Consult with regulatory agencies or your corporate personnel for disposal methods that comply with local, state, and federal safety, health, and environmental regulations.

5. SURFACE PREPARATION

5.1 PRIMER

Contego HS RFB must always be applied over an approved primer system for metal substrates, which has been prepared in accordance with the primer manufacturer's recommendation. The primer must be applied in full compliance with the primer manufacturer's recommendations and must be fully cured.

A complete listing of tested and approved primers can be obtained at www.contegointernational.com. Organic and inorganic zinc silicate primers are not suitable for use with Contego products.

5.2 CLEAN SUBSTRATES

Before applying Contego HS RFB, the following conditions must be excluded:

- Unprimed or poorly primed steel
- Unapproved or unknown primer
- Not properly cured primer
- Organic or inorganic zinc silicate primer
- Galvanized steel, unless suitably prepared with a compatible etch primer
- Condensation or frost on the steel surface
- Oil, grease, dirt, dust, or any other contaminant which may inhibit bonding with the primed surface

6. EQUIPMENT

For optimized aesthetics, airless spraying is the preferred method of application. For hard-to-reach areas, touch up, or repair purposes Contego HS RFB can also be applied via brush or roller.

6.1. AIRLESS SPRAY PUMP

An airless spray pump capable of operating with min. fluid pressure of 3300 psi and volume transport of > 1 gal/min (4 l/min) should be used. Check with pump manufacturer for exact recommendations (Graco Mark V or comparable).

Warning: Contego HS RFB requires that all mesh filters commonly found in many airless sprayers be removed prior to the application. Commonly, there are three: a suction filter, a pre-pump filter and the spray gun filter. If the spray tip uses any 'diffuser bars', these also need to be removed.

If a filter remains in the spray system, this will cause the mesh to filter out some of Contego HS RFB ingredients and cause blockages around the filters.

6.2 HOSES

High pressure type hoses, rated to match pump capacity, with minimum inner diameter of 3/8" (10 mm) should be used. A maximum hose length of 150 ft (45 m) should not be exceeded.

Note: A hose whip is acceptable, however could reduce the required pressure.

6.3 SPRAY GUN AND TIP

A contractor grade spray gun capable of handling a minimum 3300 psi fluid pressure should be used.

Recommended tip sizes are .025 or above.

6.4 BRUSH OR ROLLER APPLICATION

A high-grade latex paint brush or a short pile roller should be used.

6.5 MASKING

All areas not receiving coating should be masked, typically with lightweight polyethylene plastic and masking tape.

7. APPLICATION

7.1 STIRRING/MIXING

Contego HS RFB is supplied ready to use in sealed containers.

Contego HS RFB should be stirred thoroughly with a drill type mixer until homogeneous. 3-5 minutes mix time depending upon product temperature. Excessive stirring should be avoided as this may introduce air into the coating. Manual mixing is not recommended. Do not use drywall paddle mixers as this could cut into plastic pail causing debris in material.

7.2 APPLIED WET FILM THICKNESS

An initial application of a minimum film of approx. 12 mils (0,3 mm) is recommended. This allows subsequent coats to be applied at greater thickness.

The recommended maximum wet film thickness per coat at 73°F (23°C) and 50%rh is:

- By spray 35 mils (1,7 mm)
- By brush/roller 25 mils (0,65 mm)

To achieve superior aesthetic finish, a thickness of 30 mils per coat is recommended.

7.3 MULTIPLE COATS

Where the specified dry film thickness needs to be built up in two or more applications, use the recommended overcoating windows (see below). Prior to overcoating, ensure the previous coat is dry. For airless spraying, several thinner coats as opposed to one heavy coat allow the installer greater control over thickness and reduce overall drying time.

When multiple coats are applied, the final two coats should be applied at approx. 30 mils (0,8mm) wet film thickness to achieve optimum aesthetics.

7.4 DRYING TIME

The drying time is dependent on the wet film thickness, temperature, air movement and relative humidity.

For a coat of 35 mil wet film thickness, the following drying times at various temperatures and at 50% r.h. serve as an orientation:

35 mils @ 50%rh	Surface dry	Through dry	Recoating	Top coating
50°F / 10°C	6h	18h	24h	48h+
68°F / 20°C	4.5h	12h	5h	48h
86°F / 30°C	3.5h	5h	3h	24h

It may be possible to apply two coats in one day if the air temperature is at normal room temperature, there is good air movement, and the relative humidity is $\leq 50\%$. **DO NOT** apply subsequent coats until previous coat has thoroughly dried. It should be “dry tack free” or “dry to handle” prior to recoat.

Topcoat can be applied once >50 Shore-D Hardness has been achieved. Contact Contego for a list of approved topcoats.

Higher than recommended wet film thicknesses, high air flow and low humidity conditions may lead to crack formation.

Hairline cracks are not detrimental to fire performance. Where they do occur, repairs can be carried out by application of a brush coat of Contego HS RFB.

8. THICKNESS DURING APPLICATION

8.1 WET FILM THICKNESS (WFT)

During the application of Contego HS RFB, the wet film thickness should be checked frequently with a clean wet film thickness gauge by inserting the teeth into the wet Contego HS RFB. Care should be taken not to press the gauge into any previously applied coats that may still be soft. The highest reading indicated on moistened teeth is the wet film thickness of the most recent coat.

8.2 DRY FILM THICKNESS (DFT)

The dry film thickness can be estimated from the wet film thickness by multiplication with 0.72. Actual coverage depends on surface, substrate, application technique and method. No allowance is made for waste.

9. FINAL THICKNESS CHECK

9.1 TOTAL DRY FILM THICKNESS

A DFT reading should be taken as soon as the coating is sufficiently hard to allow a reading to be made without indenting the surface. DFT's may be measured using commercially available electronic type gauges. Multiple readings should be taken per steel member to verify sufficient coating thickness.

The final DFT reading can be taken as soon as Shore-D hardness > 50 is reached.

9.2 DRY FILM THICKNESS OF CONTEGO HS RFB

The DFT of Contego HS RFB can be calculated from the total DFT by subtracting the DFT of the primer. Therefore, it is important to determine the DFT of the primer prior to application of Contego HS RFB.

9.3 THICKNESS VERIFICATION

Verify that the total DFT of the fire protection coating (without primer and topcoat) complies with the requirements of the official approval document. Do not apply any topcoat until the DFT of Contego HS RFB has been properly verified. See AWCI 12-B for practice standards.

10. REPAIR

10.1 DAMAGE OF PRIMER AND CONTEGO HS RFB

Remove unsound and damaged coatings to a neat firm edge with sound adhesion. Remove all corrosion products. For limited small areas prepare steel surface in accordance with SSPC SP11 without polishing the substrate. For large areas of repair, the exposed steel surface should be prepared by abrasive blasting to a minimum standard of SSPC-SP6. For further repair and removal guidelines consult Contego International representative.

Feather coat edges by abrading. Reinstall the original or other priming system recommended by Contego. Avoid overlap of primer onto surrounding.

Reinstall the Contego HS RFB within the recommended overcoating limits of the repair primer.

Apply Contego HS RFB in multiple applications by brush. If a topcoat has already been applied to the existing system, minimize overlap of fresh Contego HS RFB product over the existing topcoat. Apply topcoat as appropriate.

10.2 DAMAGE NOT REQUIRING PRIMER REPAIR

Depending on severity of damage, either lightly abrade the damaged area to a feathered edge, or cut out a suitable area of Contego HS RFB and feather out the edges. If cutting out, do not damage the priming system, otherwise repair as for damage down to steel will be required.

Reinstall Contego HS RFB to the required dry film thickness using the method described above.

After the appropriate overcoating interval apply an approved topcoat in accordance with original specification, if desired.

11. INTERRUPTION OF WORK / CLEAN UP

Contego HS RFB can remain in the hose for up to 18 hours. To prevent material from curing in the tip, the spray gun should be submerged in a bucket of water. For downtime longer than 18 hours, clean all application equipment with water. Run the water through all hoses and equipment until clean.

Follow sprayer manufacturer's instructions for cleaning. Do not allow Contego HS RFB to set in the hose, pump, spray gun or tip for over 24 hours.



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The data contained in this literature was current as of March 2024 publication. Updates and changes may be made based on later testing. If verification is needed that the data is still current, please contact Contego Technical Support.