

HYCHEM FP1 Fusion Primer

Single Component Sol-Gel Fusion Primer

Product Description

FP1 Fusion Primer is a single component, spray applied sol-gel based fusion primer that functions as an intercoat adhesion primer or a direct to substrate primer. FP1 Fusion Primer creates a molecular bridge between a coating and the substrate, chemically fusing substrate and top coat. FP1 is compatible with many surfaces and many coatings, although water-based coatings are not compatible as top coats. When used on concrete substrates, provided the concrete is clean and free of bond breakers such as oils and greases, no grinding or surface profile is needed to achieve a strong chemical bond to the surface.

Typical Applications

- Adhesion layer between a coating and the substrate, or between two coatings
- Coated or uncoated concrete
- Rubber, plastic, fibreglass and glass
- Porcelain, stone and tile
- Painted or unpainted iron
- Aluminium, copper and other metals
- Hot rolled steel, cold rolled steel and stainless steel
- Powder coated and galvanised surfaces

Features & Benefits

- Removes the need to grind, sand or profile substrates or coatings before top coating
- Provides strong bonding to hard to bond or low / no profile surfaces
- 90 minute overcoat window — if the window is missed, run a screen or light abrasion and reapply
- Provides chemical bonding to the substrate and becomes one with the surface it is applied to
- Can be used on porous and non-porous substrates e.g. concrete, stone, tile, porcelain, glass
- Single component, spray down primer
- UV stable and virtually invisible

Technical Data

Composition	Sol-gel (single component)
Colour	Clear to slight straw yellow liquid
VOC Content	< 150 g/L — ASTM D2369
Flash Point	< 25 °C — Pensky-Martens

Physical Properties

Specific Gravity	0.87 kg/L — ASTM D792
------------------	-----------------------

APPLICATION GUIDELINES

Surface Preparation

Prior to the application of FP1 Fusion Primer, the substrate must be thoroughly prepared.

- Protect all surfaces not designated for coating application.
- Do not apply to surfaces that are frozen or dirty, or that have standing water, grease, oil or other contaminants.
- Intended surfaces must be clean, dry and absorbent. Confirm surface absorbency with a light water spray — the intended surface should wet uniformly. If the surface does not wet uniformly, use a recommended cleaner, auto scrubber, power washer or other process to remove surface contaminants.
- New concrete: remove all dust, debris and other contaminants from the surface. New concrete must be allowed to cure for minimum 28 days.
- Existing concrete: the intended surface must be clean, dry and structurally sound. Remove any and all contaminants including bond breakers, surface grease and oil, dust and construction debris. For larger surface areas use an auto scrubber with an appropriate cleaner.
- Surface and air temperature must be between 7 °C and 40 °C.
- Equipment: for horizontal substrates use an acetone proof pump sprayer with a cone tip. For vertical / upright substrates use an HVLP spray gun.

HYCHEM FP1 Fusion Primer

Single Component Sol-Gel Fusion Primer

Application (horizontal surfaces)

Ensure the surface is free of any dust, debris and other contaminants. Solvent wipe prior to application. If the solvent wipe pad appears black or very dirty after wiping, the surface is not clean and must be cleaned with an auto scrubber and an appropriate cleaner / degreaser. Once the surface is clean and dry, application may begin. Use an acetone proof pump sprayer with a cone tip. Keep the spray tip 450mm off the ground and apply the product slowly in a circular motion, similar to the way a stain is sprayed onto concrete. On broom finished, trowelled, ground or non-polished concrete, spray at least two coats wet on wet at 75 – 100 microns WFT each. Apply with a 50% overlap, keeping a wet edge while applying. Observe how the concrete absorbs the first coat for at least 5 minutes. If the surface still looks the same as before application and is not wet / saturated, additional coats are required in the dry, non-enhanced areas. The concrete must be saturated for Fusion Primer to work properly. Once the concrete is saturated, wait at least 15 minutes for the primer to become tacky. Once tacky, it may be over coated with non-water-based coatings. Do not apply the over coat until the primer is tacky — failure to wait will result in fish eyes, the over coat shrinking away from the coating perimeter and a poor finish to the top coat. Once tacky, there is a 90 minute window to apply the over coat. If the overcoat window is missed, screen the floor and reapply Fusion Primer.

Application (vertical surfaces)

Ensure the surface is free of any dust, debris and other contaminants. Once the surface is clean and dry, application may begin. Use an HVLP spray gun set to 25 PSI with a 25mm x 200mm elongated, vertical spray pattern. On broom finished, trowelled or non-polished concrete, spray at least two coats wet on wet at 75 – 100 microns WFT each, at least 3 minutes apart to observe how the concrete absorbs the primer. Apply with a 50% overlap, keeping a wet edge while applying. If the surface still looks the same as before application and is not wet / saturated, additional coats are required in the dry, non-enhanced areas. The concrete must be saturated and feel tacky after application for Fusion Primer to work properly.

Application Information

Mix Ratio	Single component — ready to use, no mixing or dilution required
Application Temperature	7 °C to 40 °C
Surface & Air Temperature	7 °C to 40 °C
Touch Dry	90 minutes
Dry Through	120 minutes
Recoat Window	5 – 90 minutes
Overcoat Window	90 minutes from the point the primer becomes tacky
Coverage rate	10 m ² /L @ 10 – 23 microns DFT
Packaging	4L · 20L
Clean Up	Clean tools and flush out spray equipment with acetone within 15 minutes after application. Once the product cures it cannot be removed from spray equipment. After one flush out, repeat for two total flushes.
Return to Service	Refer to the over coat manufacturer's return to service / dry times. Wait at least 3 days before exposing to vehicular traffic.

Environmental Conditions

Temperature and the surrounding atmospheric conditions will play a part in the curing process of all resin products. Under conditions of low temperatures and high humidity the final cured surface finish can be adversely affected, potentially resulting in poor gloss retention, discoloration over time, poor overcoat ability and inter-coat adhesion. Quite often these conditions will result in the formation of a white film over the surface, often evident after contact with water. If this occurs, the existing coating will need to be abraded to completely remove the affected surface to ensure the adhesion of subsequent applications. In some cases, partial or complete re-priming may be necessary. Attention also needs to be paid to the substrate temperature, which should be at least 3-5 °C above the dew point during the curing phase. Industry standards recommend the accurate recording of environmental conditions such as substrate and air temperatures, humidity levels and dew point readings during both the application and curing processes. Full material warranties cannot be provided unless all the relevant data has been recorded accurately. If in doubt consult the HYCHEM technical department for advice.

Safety Precautions

Use respiratory protection when misting or spraying. Provide ventilation with positive fresh air exhaust in the work area. Avoid contact with skin and eyes and avoid breathing vapour and spray mist. Wear butyl rubber gloves and impervious protective clothing. Chemical safety goggles or splash shields are recommended. Do not wear contact lenses. Do not eat or drink when using this product and wash hands thoroughly after handling. Store away from children, food stuffs, strong oxidisers, heat, sparks, flames and all sources of ignition. Keep the container tightly sealed when not in use. Do not apply heat, cut, drill, grind or weld on or near the container. Dispose of in accordance with local, state and national regulations.

HYCHEM FP1 Fusion Primer

Single Component Sol-Gel Fusion Primer

Shelf Life

12 months from date of manufacture when stored at 25 °C in the original un-opened container.

Storage Conditions

The packaging must be stored properly in original, unopened and undamaged sealed packaging, in dry conditions at temperatures between 5°C and 30°C.

Colour

FP1 Fusion Primer is a clear to slight straw yellow liquid. It is UV stable and virtually invisible once applied.

Important Considerations

- Always test using the intended equipment and procedures prior to starting the job.
- Water-based coatings are not compatible as top coats.
- Do not apply the over coat until the primer is tacky. Failure to wait will result in fish eyes, the over coat shrinking away from the coating perimeter and a poor top coat finish.
- The concrete must be saturated for the primer to work properly. Coverage rates will vary based on substrate porosity and application method.
- As treated and untreated surfaces look similar, finish work at an obvious point such as a corner, or mark where you have stopped. When you start work again you can apply over the dry edge without sanding.
- Properties and values are highly dependent on equipment, spray gun, mix chamber temperature, pressure and related parameters. Variations are possible and expected.

Fire and Spill Response

In case of fire use a dry chemical, alcohol foam or carbon dioxide extinguisher. Water spray may be used to cool, dilute or disperse vapours. Do not release runoff to drains or waterways. Vapours can flow along surfaces to a distant ignition source and flash back. Contact with strong oxidisers may cause fire. Closed containers may explode when exposed to extreme heat. This material may produce a floating fire hazard sensitive to static discharge. In the event of an accidental release, dike the area to prevent spreading, ventilate the area of the leak or spill and remove all sources of ignition. Collect the liquid in an appropriate container or with inert absorbent material. Do not flush to sewer. Dispose of chemical waste in accordance with current local, state and national regulations.

Warranties and Disclaimers

HYCHEM warrants that this product shall conform to the technical specifications published in the product literature. The quality and fitness of the product is dependent upon the proper use and application of the product by the applicator. HYCHEM has no role in the application of the finished polymer other than to manufacture and supply its components. It is vital that the person applying this product understands the product and is fully trained and certified in the use of the application tools, including trowelling, spray equipment etc. There are no warranties that extend beyond the description on the face of this instrument, except when provided in writing, directly by HYCHEM.

Field Support

Field support where provided, does not constitute supervisory responsibility. Suggestions made by HYCHEM either verbally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they and not HYCHEM are responsible for carrying out procedures appropriate to a specific application.

Customer Responsibility

The technical information and application advice given in this publication is based on the best information available at the time of print. As the information herein is of a general nature, no assumption can be made as to the product suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by Commonwealth or State Legislation. The owner, his representative or the contractor is responsible for checking the suitability of products for their intended use.

Legal Notes

The information, and in particular the recommendations relating to the application and end-use of HYCHEM products, are given in good faith based on HYCHEM's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with HYCHEM's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. HYCHEM reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.