

IFS Powder Coatings for Architecture

Using performance powder coatings in architectural applications



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Introducing the IFS Coatings Architectural Range

We are proud to introduce our world class, architectural performance powder coatings range. With an extensive history and years of dedicated innovation and development behind it, as well as Environmental Product Declarations (EPDs) for each product, the IFS architectural range gives architects, designers, general contractors and coaters a quality selection of architectural coatings designed to meet and exceed the AAMA specifications, in a vast array of colors.

The following pages cover the important areas to consider in specifying architectural powder coatings. For more information, please don't hesitate to contact your IFS representative.



IFS Products

The IFS architectural range is designed to meet every level of exterior durability required in the architectural arena. Whether it's the tough demands of the AAMA 2605 specification or a simple AAMA 2603 spec, we have a factory applied powder product that will meet and exceed those performance requirements.

IFS 500FP

IFS 500FP is a top of the range, superior performance 100% FEVE fluoropolymer powder coating that meets and exceeds the performance requirements of AAMA 2605. Designed to meet the very toughest exterior architectural specifications, IFS 500FP will add the highest level of protection to your design without compromising on aesthetics. IFS 500FP is perfect for monumental, commercial and high value residential applications, is used on curtain wall, facade, windows, panels etc., and will give excellent performance irrespective of building height and harsh environments. IFS 500FP is a true equivalent to 70% PVDF liquid coatings, and boasts a significantly better environmental footprint.

IFS 500FP:

- Is a 100% FEVE fluoropolymer system
- Meets and exceeds the performance requirements of AAMA 2605
- Is suitable for all exterior architectural applications where superior performance is essential
- Comes in a range of colors, effects and custom color matching
- Comes with an excellent warranty*
- Comes with a manufacturers Environmental Product Declaration (EPD)



IFS 400SD

IFS 400SD is the perfect mid-range powder coating suitable for exterior applications such as commercial storefront, windows etc. A super durable that meets and exceeds the performance requirements of AAMA 2604, IFS 400SD will add first class protection and decoration to any architectural project.

IFS 400SD is available in a huge range of colors and effects and custom color matching is also available.

IFS 400SD:

- Is a high performance super durable polyester powder coating
- Meets and exceeds the performance requirements of AAMA 2604
- Is suitable for exterior architectural applications
- Comes in a range of colors, effects and custom color matching
- Comes with a choice of color and gloss warranties*
- Comes with a manufacturers Environmental Product Declaration (EPD) and Health Product Declaration (HPD)

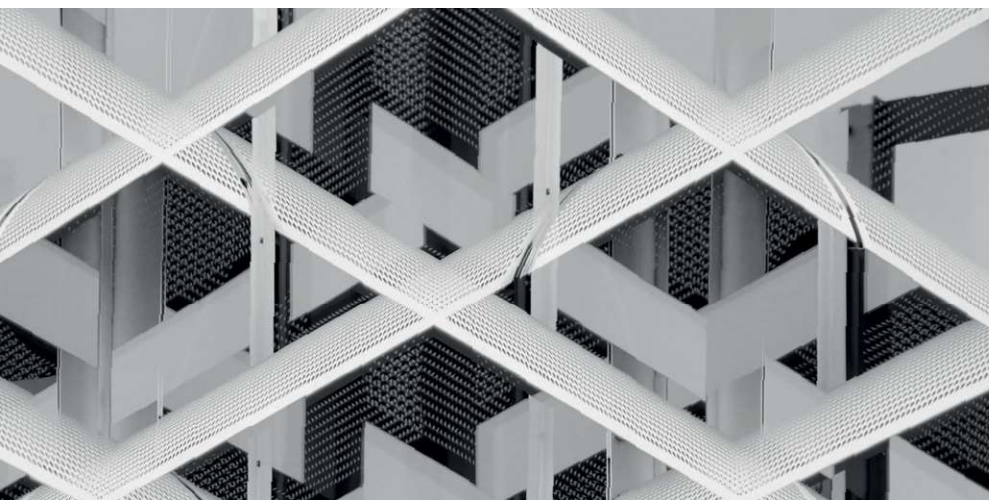
IFS 300SP

IFS 300SP offers great flexibility for interior architectural applications. This standard durability polyester powder coating comes in an enormous range of colors and effects and is perfectly suited to interior applications where a beautiful, tough, scratch resistant surface is required. IFS 300SP is a great choice for interior applications.

IFS 300SP:

- Is a standard durability polyester powder coating
- Meets and exceeds the performance requirements of AAMA 2603
- Is designed for interior applications
- Comes in thousands of colors and effects and custom color matching
- Comes with an Environmental Product Declaration (EPD) and Health Product Declaration (HPD)

*When applied by a Registered Applicator to aluminum.



Meeting Industry Standards

Since 1936 the American Architectural Manufacturer's Association (AAMA) has been regarded as the standards leader for finishes (both liquid and powder coatings) on architectural aluminum. It is now known as the Fenestration and Glazing Industry Alliance (FGIA) but the performance specifications are still referred to as the AAMA specs. There are three specifications for coating manufacturers which outline test procedures and pass requirements for all pigmented organic coatings on aluminum. Cite a performance coatings AAMA standard in the project specification to make it clear the level of performance the finishing materials must meet.

There are 3 relevant AAMA specifications:

- AAMA 2603
- AAMA 2604
- AAMA 2605

Each AAMA specification level requires chemical, mechanical and weathering tests which are performed on the coatings to judge how they affect film and appearance. See the table below for the key tests.

Tests		AAMA 2603	AAMA 2604	AAMA 2605
Chemical tests	Muriatic acid resistance	No blistering or visual change	No blistering or visual change	No blistering or visual change
	Mortar resistance	No loss of film adhesion or visual change	No loss of film adhesion or visual change	No loss of film adhesion or visual change
	Nitric acid resistance	Not applicable	Color change Delta E <5	Color change Delta E <5
	Detergent resistance	No loss of adhesion	No loss of adhesion	No loss of adhesion
	Window cleaner resistance	Not applicable	No blistering or change in appearance	No blistering or change in appearance
Weather	Humidity resistance	1500 hours	3000 hours	4000 hours
		Formation of blisters size 8	Formation of blisters size 8	Formation of blisters size 8
	Salt spray resistance	1000 hours 1-2mm creepage, formation of blisters size 8	1500 hours 1-2mm creepage, formation of blisters size 8	2000 hours 1-2mm creepage, formation of blisters size 8
	Erosion resistance	Not applicable	10% loss max.	10% loss max.
UV exposure	45° Florida exposure	1 year	5 years	10 years
	Color retention	"slight change"	Delta E <5	Delta E <5
	Gloss retention	"slight change"	Minimum 30%	Minimum 50%
	Chalk resistance	Not applicable	No more than number 8 rating	No more than number 8 rating

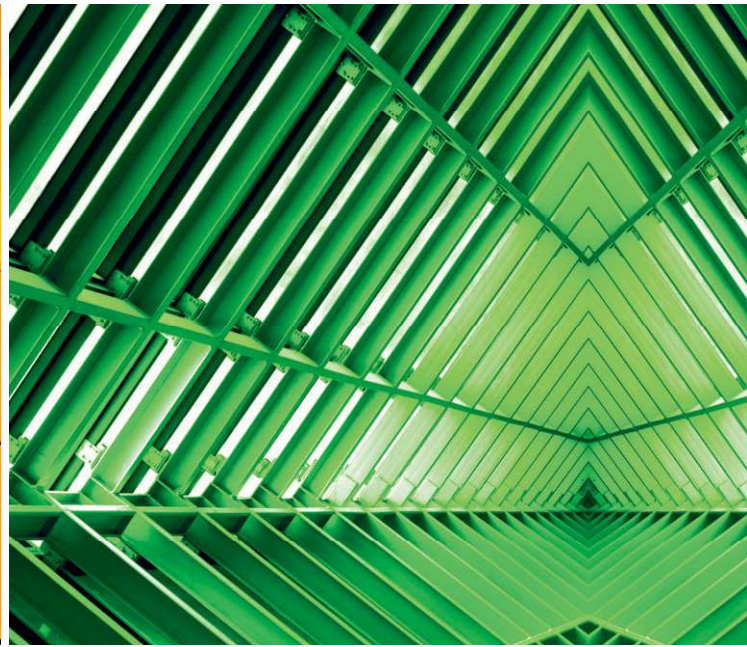




IFS Coatings' architectural range is designed to meet and exceed the performance requirements of all the AAMA specification requirements, however it is the weathering tests that really set the specifications apart. The below table outlines the AAMA weathering requirements and the applicable IFS architectural coating.

	AAMA 2603	AAMA 2604	AAMA 2605
IFS Product	IFS 300SP	IFS 400SD	IFS 500FP
AAMA - number years weathering	1	5	10
AAMA - color retention	"slight fade"	Delta E<5	Delta E<5
AAMA - gloss retention	"slight fade"	Minimum 30% retention	Minimum 50% retention
Available warranty*	No warranty	5 or 10 year warranty*	20 year warranty*

*When applied by a Registered Applicator to aluminum.



Color and Effect

We know that choosing the right color for your design is complicated. That's why we have a great selection of architectural colors, metallic/mica sparkles and special effects like textures, as well as the ability to work with you to create the custom color you want – quickly.

Architectural Color Choice

There are certain shades instantly associated with architectural design – bronze, silvers, greys, blacks, whites, platinum and browns. All of these shades and more are available in each performance powder product type. We have over 76,000 colors in our database. That's a lot to choose from! As well as solid colors, anodic style effects and mica powders, we have hundreds of RAL colors, ANSI colors, Federal Standards and more. For interior applications the range of special effects available is vast. Choose from translucent powders, hammertones, wrinkles, multi-component looks, blackened steel, chrome effect, rust looks and more. Talk to your IFS representative about the color and effect you are trying to achieve.

Color matching service

If you have a specific shade in mind or need to match your coating color to something else, let us know. We will quickly analyze the shade using the latest color matching technology and create a match and sample panel for you to approve. We can also change the gloss and add special effects like sparkles or textures to your color to create the exact look you need.



Gloss levels

From flat matte to high gloss we can adjust the gloss of your coating, so whether it's a flat black or a high gloss green, simply let us know what you need.

Metallics/Micas

Metallic/Mica looks have become a staple favorite in the architectural world. It's easy to add a sparkle to your design. We can add sparkle using mica and/or metallic flake to any color to ensure the coating is exactly what you need for your project.

Textures

Sometimes super smooth just won't do. There are a range of textures available to add a tactile dimension and an interesting look to your coating.

With any coating, powder or liquid, there are limitations regarding what is achievable at the higher levels of exterior durability. Quite simply, the pigments for some shades (for example, bright red) that will offer the durability required for these specifications are not available. Similarly, not all gloss levels or metallic effects can be achieved at an AAMA 2605 level. However, there is a vast range of colors and effects that are available and will meet the strict exterior durability demands of the AAMA 2605 specification. Talk to your IFS architectural advisor for advice.



Application, Fabrication and Assembly

Registered Applicators

Once the difficult task of specifying the right product in the right color has been achieved, the project's coating success now rests in the hands of the fabricator and applicator.

Using an IFS Coatings Registered Applicator is essential to ensuring the quality and integrity of your project. Our Registered Applicators have invested heavily in the quality of their business and must repeatedly demonstrate their capability to meet stringent pretreatment, coating, quality conditions and international standards.

Pretreatment is an essential part of the coating process, just as much as a professional application and curing operation. For the coating to provide maximum protective and decorative performance, the aluminum must be properly cleaned and pretreated to aid adhesion and corrosion protection, the powder must be applied in accordance with IFS recommendations and the coated metal thoroughly tested before being released. Using a registered IFS Registered Applicator helps ensure that this process is done to the highest standards. Talk to an IFS representative about finding a Registered Applicator near your project. We're happy to help.

Fabrication and installation considerations

IFS premium architectural powder coatings are suitable for post fabrication onto windows, doors, curtain wall, store front, balustrade assembly and more.

All IFS architectural powder coatings are suitable for post cutting, mitre joining and glazing. Punching out drainage holes is generally acceptable provided there is no deformation of the metal. Generally, raw edges of cut metal will perform quite well in mild to moderate environments. For additional protection, in mild environments and critical in tropical or severe environments, the raw metal should be treated with a chromate solution, a small joint sealer or an equivalent performing system before the metal is assembled and installed.



Application, Fabrication and Assembly

Bending

As a general rule the higher the durability of the finish, the lower the flexibility of the coating. Bending of powder coated aluminum sections should be kept to a minimum as this can introduce cracking in the metal and the pretreatment underneath the powder coating. In some cases the powder coating can crack upon bending, causing unsightly marks and a potential site for film failure. When designing fabricated sections, it is recommended that trials are conducted to ensure the fabrication procedures are understood prior to production. Alternatively and ideally, the metal should be formed into the desired shape before pretreatment and powder coating. While some architectural powder coatings show no evidence of cracking after bending, it should be noted that warranties do not cover film failure or corrosion caused by post bending, unless specifically authorized by IFS in writing.

Installation

The use of masking materials to protect the installed architectural products is a common practice to avoid scratching or discoloration. There have been many occasions when a high quality product has been installed only to be damaged through excessive exposure to building materials like mortar, plaster, cleaning chemicals and paints. However, care must be exercised to ensure that the protective material itself does not cause harm to the finish. All protective materials should be used for short periods (less than 3 months) and where the masked product is exposed to direct sunlight, even shorter masking periods should be employed. With so many masking materials available it is advisable to trial a small test area before applying any form of test product.

Sealant adhesion

When assembling joinery, including application of sealants and glazing products, avoid contact as much as possible. Neutral cure sealant on all glazing is recommended, as acid- and alkali-cured sealants can damage the powder coating and corrosion resistance of the metal. It is the responsibility of the sealant to adhere to the powder coating and any concerns with sealant adhesion should be directed to suppliers of the sealant products.

The AAMA specifications state:

“Sealant used in contact with an organic coating shall be compatible with the organic coating and meet the performance requirements of AAMA 800 Sealant Specification. There shall be no evidence of deleterious effects in the organic coating such as staining, coating separation, lifting, discoloration or loss of adhesion of the coating from the substrate. Note: It is strongly recommended that the fabricator of the finished products consult with the sealant manufacturer in the selection of the appropriate sealant...”



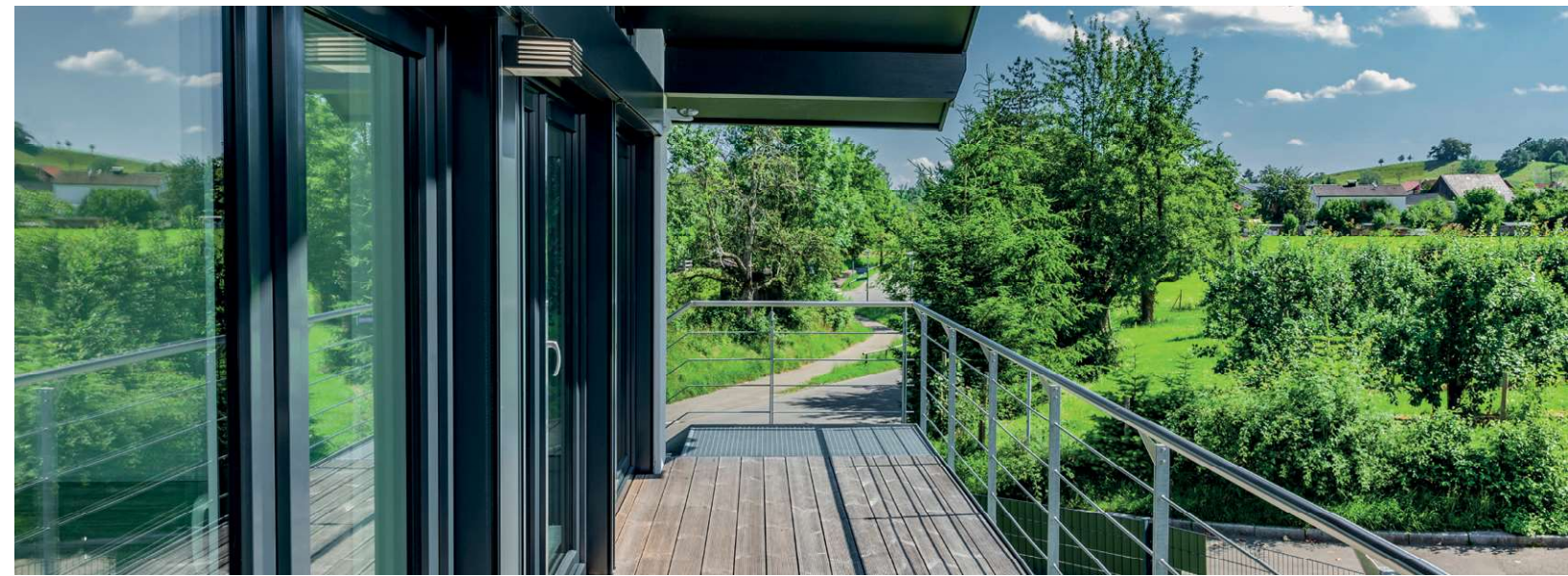
Care and maintenance

The effects of UV light, pollution, dirt, grime and salt deposits can all accumulate on your powder coated surface over time. To extend the effective life of powder coatings and protect any warranty requirements that may exist, a simple regular maintenance program should be implemented for the removal of any residues.

As a general rule:

1. Carefully remove any loose deposits with a wet sponge.
2. Use a soft, non-abrasive brush or cloth and a mild household detergent to remove dust, salt and other deposits. Do not use steel wool, scrapers, scouring liquids or powders to remove deposits as these permanently scratch the coated surface.
3. Rinse off with clean fresh water. Avoid water which has a high mineral content. Bore water is generally unsuitable for rinsing.

In essence, common sense should apply with regards to cleaning frequency. If the surface is ignored, the appearance and performance of the powder coating may be compromised. After all, you wouldn't leave a car outside in the sun for 10 years, not clean it, and expect it to look the same.



Sustainable design is important

Choosing a performance coating with an improved environmental footprint should be a part of every design professionals' check list. Choosing IFS powder coatings can help you achieve an improved sustainability footprint over other finishing options because:

- **IFS Architectural Coatings each come with a manufacturers Environmental Product Declaration (EPD).**
IFS 500FP, IFS 400SD and IFS 300SP each have an independently verified manufacturers EPD.
- **IFS 400SD and IFS 300SP come with Health Product Declarations (HPDs)**
Ask about our HPDs for the products that are used on interior applications.
- **IFS Powder Coatings have no solvents and therefore negligible VOCs**
- **No Chrome**
IFS powder coatings do not have to go over chrome pretreatment, and we never use chrome based primer.
- **IFS Coatings and energy savings**
IFS Coatings can achieve the same or better levels of chemical, mechanical and weathering performance than liquid coatings, but in a single coat. This also means there is a significant energy saving. Single coat powder coating applications cure at lower temperatures than liquid paints, and there is no thermal oxidizer running to remove the solvent, so the powder's energy footprint is much improved.
- **Reclaim and reuse IFS Coatings**
Any overspray can be reclaimed and reused or recycled, unlike with liquid paints where any overspray is instantly lost. This gives up to a 97% utilization rate from a box of powder.
- **IFS Coatings have lower carbon dioxide emissions**
In a life cycle analysis (DSM study), powder coatings were shown to have both lower VOC and lower carbon dioxide emissions than liquid coatings.
- **IFS Coatings can help meet the requirements of sustainability initiatives such as LEED, LBC, Google Red list and more.**
Ask for details on how IFS powder coatings can help you meet your sustainability objectives.
- **EPA recommendation**
Powder coatings are recommended by the Environmental Protection Agency.



Specification advice

Writing the spec

Reduce the chance of misinterpretation or inferior or less sustainable products being switched into the project by:

- Indicate the product type e.g. Fluoropolymer, Super Durable or Standard Polyester.
- Indicate the resin percentage. For example, instead of 'a minimum 70% PVDF resin', your powder Fluoropolymer spec should demand '100% FEVE Fluoropolymer resin'.
- Indicate the AAMA specification performance level required.
- Indicate the number of coats. On aluminum, powder is usually a single coat application - no matter what color or effect. On steel powder is usually a double coat - a powder primer followed by a powder top coat. If corrosion is a concern, use a zinc rich powder primer.
- Indicate that if an alternative to the specified product is to be submitted, it must meet or exceed the required AAMA specification level, the sustainability characteristics and the performance criteria.
- Indicate the IFS product name and code. Each letter and number means something in a formulation that has been created to meet your requirements and signed off by you.

The IFS architectural team will work with you through the entire process – from design development, choosing the colors and ensuring samples are available for prototypes, to checking the wording in your finishing specification to contacting the General Contractor to assist in finding a Registered Applicator and getting the right powder to the right place at the right time. We know how important specifying the right coating is and we are here to help.

Suitable Applications

IFS architectural powders are suited to all metal applications including:

Curtain Wall

Windows

Doors

Skylights

Mullions

Panels

Fencing & Railing

Balustrades

Handrails

Interior metals

Housing

Commercial Storefront

Retail Interiors

Stadiums

Skyscrapers

Government Buildings

Hospitals

Education

Summary

IFS architectural powder coatings:

- Have an improved environmental footprint compared to liquid coatings
- Are factory applied to ensure a professional finish
- Offer superior protection in a single coat
- Meet and exceed AAMA specifications
- Come with excellent warranties
- Come in a range of colors and effects





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