



Spandrel Glass – Application and Design Information

Glass Dynamics Ceramic Frit Spandrels are a factory-applied, fire-fused ceramic frit paint for use with monolithic or insulating glass, and in some laminated glass configurations. You can choose from a wide selection of standard colors or specify your own custom color.

Non-hazardous

Glass Dynamics uses only lead-free ceramic frit paints, which are environmentally friendly. Ceramic frit paints offer designers, contractors and building owners the freedom and flexibility to choose from a wide array of colors to create unique building designs. It's the product of choice for durability and cost control.

Full Coverage Spandrel

Spandrel glass is typically designed for applications on the #2 surface of an uncoated glass make-up, or on the #4 surface of an insulating unit incorporating a high performance coating.

Spandrel glass is designed for glazing against a uniform, opaque background.

- We do not recommend its use in transoms, partitions or other areas where a uniform, opaque background is unavailable.
- We do not recommend that they be used in any application where they can be viewed with daylight or artificial light on the opposite side.

The application of the ceramic frit to the glass surface is achieved by conveying the glass under a rubber application roller. The application of the frit to the glass surface results in striations from the roll that is highly visible when viewing the glass in transmission (with light on the opposite side).

The proper application for ceramic fritted spandrel glass is to install it in an opening that has a uniformly colored insulation or back-pan that eliminates the possibility of read-through or viewing the glass in transmission. When done properly, the glass may only be viewed from the exterior of the building, with daylight reflecting from the glass surface.

Full Coverage Translucent Frits in vision or spandrel areas - (example - Simulated Sandblast)

When used as full coverage for vision areas, inherent characteristics may make this product unsuitable for certain applications. These characteristics include slight variations in color and uniformity, pinholes or streaks.

One hundred percent (100%) coverage is allowed with the following criteria:

- Pinholes to 1/16" diameter, fisheyes, and streaks from screening process and paint particles are allowed. Large clusters or close spacing of pinholes or other defects *are not* allowed in the central 80% of the glass area.
- Color and uniformity may vary slightly due to variations in ceramic frit thickness.
- Approval of a full-size mockup at an 11 foot inspection distance and a 90-degree angle to glass surface against a bright uniform background is recommended.

When considering translucent frits for spandrel applications note that these areas may be prone to condensation formation on interior glass surfaces. Over time, this may result in a visible film formation. Therefore, consideration must be given to the suitability of these products in spandrel applications. For these applications, the translucent frit may only be applied to non-exposed surfaces.



Vision/Spandrel Match for Non-Vision Areas

Often a project may require spandrel glass to harmonize with the vision areas of your building. This is sometimes difficult to achieve when high light transmittance glass or low-reflective glass types are used. Instead, the use of low-light transmitting and high-reflective glass types provide the least contrast between vision and spandrel areas under a variety of lighting conditions.

In addition, variable sky conditions can also influence our perception of glass color and the appearance. On a bright, sunny day, the exterior light intensity is approximately 45 to 100 times greater than the interior lighting level.

When viewing the glass from the exterior, the dominant visual characteristic is the exterior reflection. On gray, overcast days, a greater visual disparity is created between vision and spandrel areas. This is due to the transparency of the vision glass and the perception of depth created by interior lighting. The non-vision areas tend to look flat and two-dimensional by contrast.

Greater contrast between vision and spandrel areas occurs when using uncoated, tinted glass (green, bronze, blue, etc.) or high transmission, Low-E coatings. Under these conditions, insulating spandrel units can create the illusion of depth and approximate the vision glass more closely. By keeping the vision and spandrel glass construction similar (the same exterior glass color, coating, etc.), the contrast can be minimized under various lighting conditions. Glass Dynamics recommends using a neutral colored ceramic frit on the number four surface.

Because spandrel glass is virtually opaque, it can only be viewed in reflection. On the other hand, vision glass possesses a degree of transmission. As the transmission of the vision glass increases during overcast conditions, interior lighting becomes more prevalent. Glass Dynamics recommends viewing glass samples or mockups to match vision and spandrel glass areas when the visible light transmission of the vision glass exceeds 15 percent.

Applicable Standards

Reference ASTM C 1048 & ASTM C 1376 for viewing criteria and acceptance.

Cleaning and Care

Please refer the Glass Dynamics' "Glass Cleaning Guidelines" and for further information on industry cleaning procedures visit the Glass Association of North America's (GANA) website at www.glasswebsite.com.

1. GANA Glass Informational Bulletin GANA TD 01-0300 – Proper Procedures for Cleaning Architectural Glass Products.
2. GANA Glass Information Bulletin GANA TD 02-0402 – Heat Treated Glass Surfaces Are Different.