

# Use of 7628 Glass in Lead Free & CAF Applications

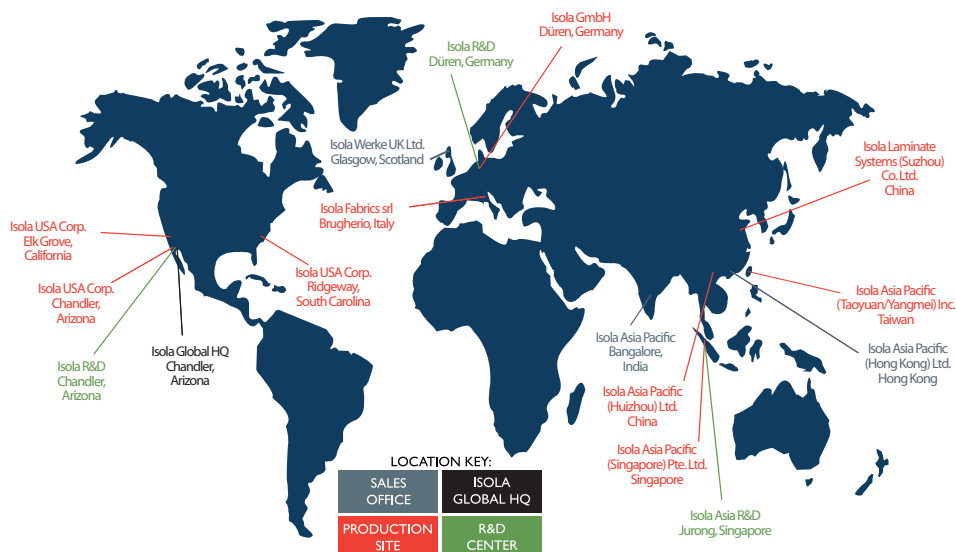
## FR408, IS415, FR408HR, I-Speed® Materials

*Written by Doug Trobough  
Corporate Director of  
Applications Engineering, Isola*

When using 7628 glass cloth, the user should be aware of limitations in its application. Although Isola has offered 7628 laminate and prepreg constructions for a long time, experience and engineering testing have taught us that 7628 glass style is not well suited for certain applications. The use of 7628 glass raises concerns with applications requiring lead-free assembly and high levels of CAF resistance.

With these materials, we know that 7628 is known to have reduced capability for CAF applications when the hole wall to hole wall spacing or plane to hole wall spacing is less than 0.9 mm (35 mils). This means that 1.0 mm grids (or less) for small hole sizes and connector grids under 2.0 mm grids are considered higher risk. Generally speaking for any resin system, 7628 glass is more difficult to fully 'wet out' in the treating process at the intersections of the glass weave. This is due to the thickness of the glass, the twist of the yarn and the density of the weave structure. These intersections will have very little resin between the yarn fibers and can result in poor resin to glass bond. Low or inadequate resin content at the intersections and at the surface of the dielectric space, adjacent to copper inner layers and at the surface of laminate are precursors to measling, crazing, and delamination.

Isola continues to offer many of our products with 7628 glass. However, Isola recommends that our customers carefully evaluate the need to use 7628 glass cloth for lead free compatible or CAF resistant applications, with this material family. Customers who choose to use 7628 glass in laminate and prepreg products are strongly encouraged to fully validate the material performance and consistency.



### Corporate Headquarters

#### Isola Group S.a.r.l.

3100 West Ray Road, Suite 301  
Chandler, AZ 85226

**Phone: 480-893-6527**

**Fax: 480-893-1409**

### UNITED STATES

#### Isola USA Corp.

165 South Price Road  
Chandler, AZ 85224

**Phone: 480-963 0022**

**Fax: 480-812-2595**

#### Isola USA Corp.

3233 Dwight Road  
Elk Grove, CA 95758

**Phone: 916-429-4462**

**Fax 916-429-4464**

#### Isola USA Corp.

100 Tillessen Boulevard  
Ridgeway, SC 29130

**Phone: 803-337-4000**

**Fax: 803-337-8821**

### ASIA PACIFIC

#### Asia Pacific Regional Headquarters

##### Isola Asia Pacific (Hong Kong) Ltd.

No. 1 Hung To Road, Kwun Tong,  
Unit 3512 - 3522, 35/F  
Kowloon, HONG KONG

**Phone: 852-2418-1318**

**Fax: 852-2418-1533**

#### Isola Asia Pacific (India Liaison Office)

No. 615, Fifth Floor  
Oxford Tower, Opp. Leela Palace  
Old Airport Road  
Bangalore 560 008  
Karnataka, INDIA

**Phone: 91-80-4126-2283**

**Mobile: 991-80-4126-2284**

#### Isola Asia Pacific (Huizhou) Company Limited

No. 198 Huguang Road, Huzhen Town  
Boluo County, Huizhou City  
Guangdong Province 516139  
CHINA

**Phone: 86-752-6302222**

**Fax: 86-752-6302288**

#### Isola Asia Pacific (Singapore) Pte. Ltd.

101 Gul Circle, Jurong Industrial Estate  
SINGAPORE 629587

**Phone: 65-6864-1200**

**Fax: 65-6862-5036**

#### Isola Laminate Systems (Suzhou) Co. Ltd.

121 Su Tong Road  
China Singapore Suzhou Industrial Park  
Suzhou City 215021 Jiangsu Province, PRC

**Phone: 86-512-6761-0301**

**Fax: 86-512-6761-0316**

#### Isola Asia Pacific (Taiwan) Inc.

915 Cheng Kung Road, Section 2  
Kuan Yin Industrial District  
Kuan Yin Hsiang, Taoyuan Hsien  
Taiwan, ROC

**Phone: 886-3483-7000**

**Fax: 886-3483-7030**

#### Isola Asia Pacific (Taiwan) Inc.

161-1 Minfu Road, Section 2  
Juiyuan Li, Yangmei  
Taoyuan 326  
Taiwan, ROC

**Phone: 886-3472-8868**

**Fax: 886-3472-3219**

### EUROPE

#### European Regional Headquarters

##### Isola GmbH

Isolastrasse 2  
D-52353 Düren  
GERMANY

**Phone: 49-2421-8080**

**Fax: 49-2421-80808**

##### Isola Fabrics S.r.l.

Via Matteotti 120  
20861 Brugherio (MB)  
ITALY

**Phone: 39-039-289-1647**

**Fax: 39-039-2891-690**

##### Isola Werke UK Ltd.

Blue Square  
272 Bath Square  
Glasgow G2 4JR UNITED KINGDOM

**Phone: 44-141-427-0313**

**Fax: 44-141-427-0313**

**www.isola-group.com**

The Isola name and logo are registered trademarks of Isola USA Corp. in the U.S.A. and other countries. Copyright © 2013 Isola Group, S.à.r.l. All rights reserved.

5/13 AN0805A

# isola