



Clear Fire Resistant Glasses & Systems for the Marine & Offshore Market



• Photograph courtesy of DSND Subsea Ltd



• Photograph courtesy of Transocean



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INTRODUCTION

TempaFLAM provides fire protection and safety as well as offering designers the opportunity of combining light and space aboard cruise ships, ferries and offshore living quarters.

Accepted as an alternative to solid walls, where fire compartments and escape routes are required. AC Yule in partnership with Apex Security Engineering manufacture and distribute worldwide, a range of fire resistant doors to the marine and offshore markets.

All of the manufacturing is carried out to ISO 9002 which ensures high quality workmanship coupled with the marine and offshore regulatory authorities requirements.

Additional products and services include: toughened glass products, glass processing, double glazed units, decorative and embossed glass, leaded lights, fabricated metal framing including steel, aluminium and stainless steel.

DESCRIPTION

TempaFLAM, is a modified tempered safety glass, which, in addition to possessing fire resistance characteristics, complies and is manufactured in accordance with, the Specification for impact performance requirements for flat safety glass, BS 6206:1981 (amended July 1995), Class A.

Class A glasses offer the highest tested degree of impact resistance and if breakage does occur, the resulting granules are small enough so as to reduce the risk of serious injury.

STANDARDS The following British Standards are relevant to this product	
IMO Resolution 754 (18)	Methods for determination of the fire resistance non-loadbearing elements of construction - determination of the fire resistance of glazed elements.
BS 6206: 1981 (AMD 8693/ July 1995)	Specification for impact performance requirements for flat safety glass for use in buildings.
BS 6262: Part 4: 1994	Code of practice for Glazing - Safety related to human impact.

APPLICATION

TempaFLAM Fire Resisting Safety Glasses can achieve 30 or 60 minutes integrity only, depending on size, glass type and thickness, method of glazing and the supporting frame structure:

STEEL FRAME DATA

<i>TempaFLAM Fire Resisting Safety Glasses</i>						
Institute Test Certificate	Glass Type	Glass Thickness	Maximum Size	Frame Type	Fire Rating Integrity	Certificate No.
Warrington	Tempaflam	6mm	1200 x 2000	Apex Firestop (RP)	30 mins (BO)	C82971

The combined fire and safety characteristics of **TempaFLAM** offer design flexibility for use in glazed screens, windows and doors in a variety of locations within the marine and offshore sectors.



TempaFLAM Fire Resisting Safety Glass undergoing fire integrity rating test at Warrington Fire Research Institute.

METHODS OF GLAZING

Typically, in a real fire, and during the fire test in accordance with IMO 754, a temperature of 600°C will be reached in around 7 minutes. **TempaFLAM** withstands such temperatures for such a period to allow a 30 minute integrity only fire rating. As a fire gains momentum and reaches higher temperatures, **TempaFLAM** being a modified tempered glass, re-anneals and starts to slump when temperatures in excess of 800°C are maintained over 20 minutes. However, to overcome such a slump and to take **TempaFLAM** from a 30 minute integrity rating up to a 60 minute integrity rating, the method of glazing can be upgraded, should the required specification demand.

IMPACT STRENGTH

All **TempaFLAM** Fire Resisting Safety Glasses are manufactured to comply with BS 6206:1981 (AMD 8693/July 1995); the Specification for impact performance requirements for flat safety glass. The test in BS 6206 stipulates that a 45kg leather bag filled with lead shot swung against a test panel from a height of 1219mm must either not break or break safely. For a test panel to break safely the granules resulting from breakage must be less than a certain size and have sufficiently dulled edges so as to greatly reduce the risk of serious injury.

STORAGE

TempaFLAM Fire Resisting Safety Glass should be stored at an angle of between 3° and 6° from the vertical with sufficient lateral support to prevent bowing, in a clean, dry ventilated space. The panels should be set on strips of wood or other soft material and contact with hard materials should be avoided. All glass should be carefully stored, but extra care should be taken to protect surfaces and edges from damage during storage.

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