

# FireBlast

DuraSystems in conjunction with the Steel Construction Institute developed a computer program “FireBlast” that provides predictive engineering for blast protection. The FireBlast system can design blast resistant walls and barriers that also resist post blast fires. The FireBlast program has been tested on large scale applications that prove it accurately simulates the effects of blasts, and has achieved Lloyds of London approval. This approval is something that few if any other companies have obtained.

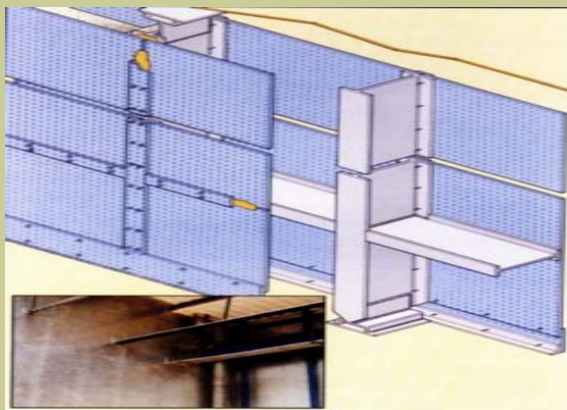


### **FIREBLAST FEATURES**

- Software program approved by Lloyds of London produces individual designs in minutes
- Wall designs created by the software program are covered by a Lloyds Register certificate
- The FireBlast software is flexible to allow for multiple blast scenarios.
- Designs barriers with blast protection in excess of 2 bar

**DuraSystems Barriers Inc.  
199 Courtland Ave.  
Vaughan Ontario Canada  
L4K 4T2  
www.durasystems.com  
1-866-338-0988**

# FireBlast Walls



The systems designed by the FireBlast program protect personnel and equipment from the effects of explosion, fire and impact. Other benefits include protection from the effects of smoke and fumes in hazardous environments, such as offshore oil and gas platforms, petrochemical installations, chemical plants, military establishments, and hazardous process plants.

The energy absorbing properties of DuraSteel panels and steel framing, enable the FireBlast barrier to withstand the blast pressure for which it was designed.

### FireBlast Wall Features

- Blast resistant—tested up to 2 bar pressure (4177 psf)
- 2 hour post blast fire protection
- Certified for hydrocarbon fires to H120
- Sturdy single/double skin construction
- Jet fire resistance available
- Offers a safer environment in applications that require structural strength & integrity
- Water and impact resistant
- High energy absorption
- Multiple finishes available
- Fire & blast resistant
- Maintenance free
- Cost competitive
- Custom designs to meet differing applications

	BLAST	FIRE
Single	1 side—2 bar	H0
Double	2 sided—2 bar	H60/H120

# FireBlast Doors

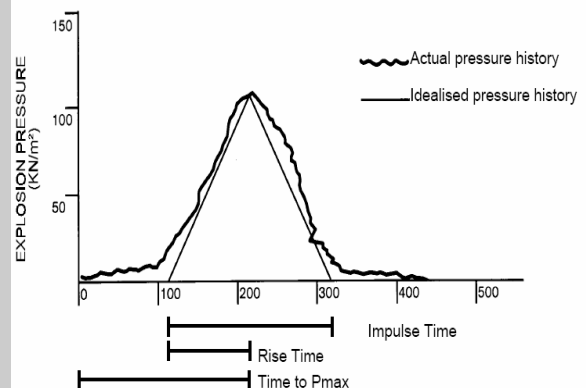


The DuraSystems FireBlast door is manufactured to withstand explosions. All doors are custom made to size and anticipated blast pressure. Our FireBlast doors are suitable for both Interior and exterior applications and can protect virtually any environment. FireBlast doors are fundamental to the integrity of a fire blast system. Operable openings such as doors provide an access/escape point between adjoining compartments.

### FireBlast Doors

- Multiple blast ratings up to and including 2-bar
- Hydrocarbon certification to H120 rating
- Hinged, sliding, or multi-leaf
- Manual or automatic operators
- High energy absorption
- Post blast fire protection
- Water resistant
- Impact resistant
- Manufactured to special order
- Fast & easy installation
- Complete range of finishes
- Rugged construction
- Multiple finishes
- Cost competitive
- Maintenance free

### TYPICAL PRESSURE IMPULSE GRAPH



### FireBlast Software Output & Certification

```

-----
FIREBLAST BLAST WALL DESIGN PROGRAM                                VERSION 2.10
-----
JOB TITLE      Sample Wall                                         01/01/2007
-----
FILE REFERENCE d:\sample.PRN                                       PAGE 1
-----

```

**GEOMETRY :**

Height of wall	7.25 m	Overall width of wall	9.00 m
Spacing between verticals	1.25 m	Max spacing between horiz.	0.95 m
Door width clear opening	1.00 m	Door height clear opening	0.00 m
Max. static wall thickness	0.40 m	Deflection allowance	0.30 m

**LOADING :**

Default profile :		Time to peak	30.0 ms
Peak pressure	0.70 Bar		
Total load duration	209 ms		
Load profile factor	1.00		

**MATERIALS :**

Material type : US Grade50  
 Young's Modulus 200 kN/mm2  
 Yield Stress 350 N/mm2  
 Material strength factor 1.00

**OPTIONS :**

Strain rate effects included  
 Composite action : Yes  
 Wall clad : Both sides  
 Weight of insulation 6.00 kg/m2  
 Fire rating of wall H60  
 Sections included in program selection :  
 M W

**DETAILS FOR SECTIONS SELECTED BY PROGRAM FOR LEAST WEIGHT WALL**

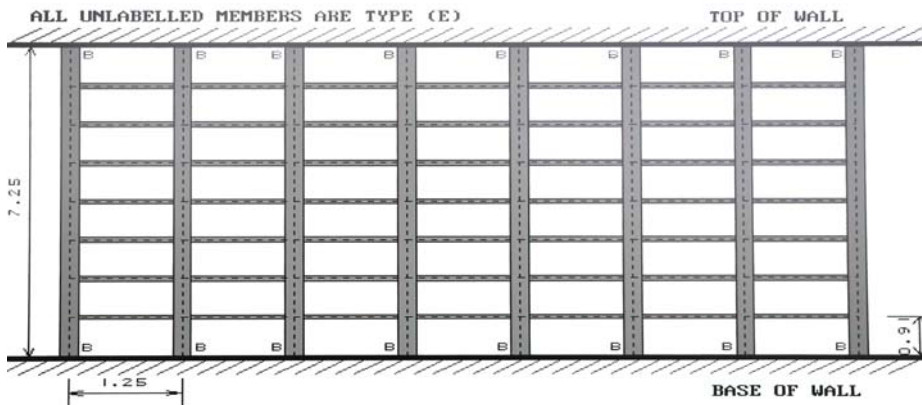
MEMBER TYPE	A	B	C	D
SECTION SIZE : (mm,mm)	---	310x254	---	---
SECTION TYPE :	---	W	---	---
WEIGHT : (kg/m)	---	86.33	---	---
REACTION FORCE END 1 : (kN)	---	375	---	---
REACTION FORCE END 2 : (kN)	---	375	---	---
PERMANENT DEFORMATION : (mm)	---	74	---	---
MAXIMUM DEFORMATION : (mm)	---	154	---	---
MAXIMUM STRAIN : (%)	---	0.817	---	---
MAXIMUM RATE OF STRAIN : (1/sec)	---	4.5E-01	---	---
NATURAL PERIOD : (ms)	---	71	---	---
DYNAMIC LOAD FACTOR :	---	1.18	---	---

PROGRAM SELECTED TYPE E MEMBER : FABRICATED I SECTION: 80 x 8 thk FLANGES  
 : 5 thk WEB

WALL DISPLACEMENTS: ALLOWABLE = 340 mm  
 PREDICTED = 154 mm

NOMINAL WALL THICKNESS = 360 mm

WALL WEIGHTS : NOMINAL (BASED ON B TYPE MEMBERS) = 149 kg/m2  
 FOR WALL WIDTH OF 9.0 m, TOTAL = 10.4 T



**Type Approval Certificate Extension**

This is a certificate that Certificate No. 90380058 is for the unlabelled products is extended and reissued as shown.

The conditions to issue this:

PRODUCER: Farnham UK Ltd, Building Centre, Farnham Road, Farnham, Surrey, GU14 7JH, United Kingdom, U.K.

PLACE OF PRODUCTION: Victoria Works, South Street, London, W8 5JY, United Kingdom, U.K.

DESCRIPTION: Composite steel structure and fire resistant, non-flammable, passive fire protection for structural and equipment steel in the vicinity of explosion and fire of industrial environment.

TYPE: Fabricated Fabrication System

APPLICATION: Domestic, marine and industrial use for the construction of walls for the protection of personnel and equipment in plant, work and production areas.

RATINGS: When subject to standard fire test conditions, the system shall provide protection for a minimum of 60 minutes.

Certificate No: 90380058  
 Issue Date: 16/06/2005  
 Expiry Date: 20/06/2007  
 Sheet: 1 of 2

Lloyd's Register (UK) PLC, 12 Old Broad Street, London EC2N 2DL, UK



# DuraSteel

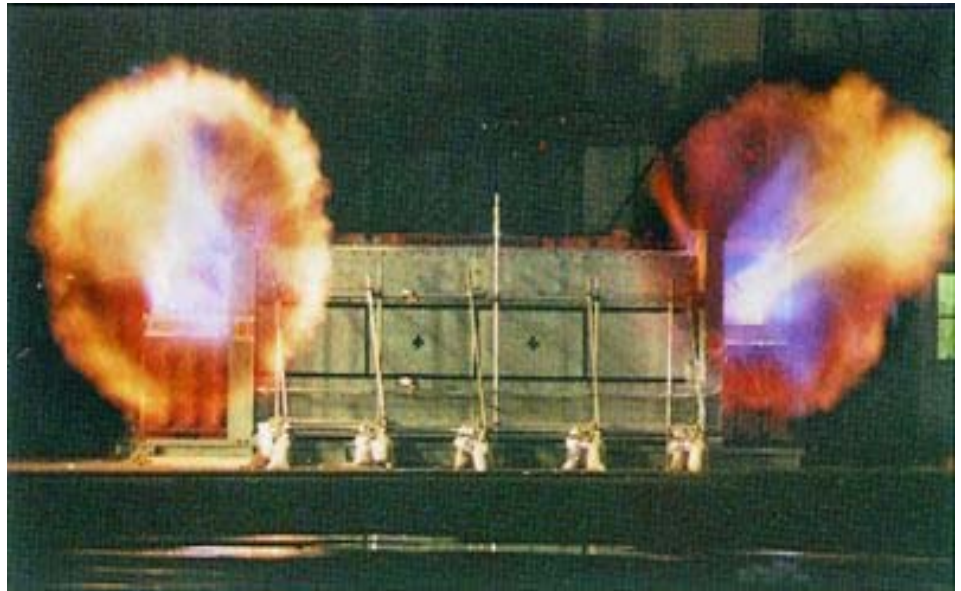
### International Testing & Acceptance



SwRI



**DuraSystems Barriers Inc.**  
199 Courtland Ave.  
Vaughan Ontario Canada  
L4K 4T2  
[www.durasystems.com](http://www.durasystems.com)  
1-866-338-0988



DuraSteel sheets have a variety of uses.  
Some of the most common are:

- Fire Rated Ventilation Systems
- Fire Rated Ceiling, Floor, Wall & Door Assemblies
- Oil , Gas Pipe & Cable Tray Enclosures
- Fire Barriers
- Outdoor & indoor transformer fire separations
- Protection from hydrocarbon fires & blasts
- Fire & Blast containment for gas storage
- Oil & Gas Compressor protection
- Portable Barriers
- Document Storage Vaults
- Acoustic Barriers & Enclosures
- Blast Walls & Doors
- Blast Resistant Ducts

### Testing

DuraSteel is one of the most extensively tested materials for Passive Fire and Blast Protection Systems.

DuraSteel systems have been tested against the most stringent standards in the world for fire, blast, impact, physical strength, water resistance, projectile resistance, radiant heat



**The Passive Fire Protection  
Specialists**

**DuraSystems Barriers Inc.**

**199 Courtland Ave.**

**Vaughan Ontario**

**Canada**

**L4K 4T2**

**[www.durasystems.com](http://www.durasystems.com)**

**Email: [sales@durasytems.com](mailto:sales@durasytems.com)**

**1-866-338-0988**