



**EGISPRO**

90/42 16<sup>th</sup> Floor, Sathorn Thani Bldg, North Sathorn Rd., Silom Bangrak Bangkok 10500  
 Tel: (66)2-863-3200 Fax: (66)2-863-4955 www.egispro.com

## **FIRE AND FLAME PROTECTIVE BARRIER WRAP**

### **FBS® FIRE PROTECTION WRAP - CABLES AND CONDUITS**

#### **1. FIRE PROTECTION WRAP - FBS®-Wrap**



**1. FBS® WRAP SYSTEM..** is a unique patented wrap which incorporates an intumescent material that has an expansion ratio of over 100 to 1 to accomplish the large volumetric expansion of the "**FBS® System**" containment design. This new technology was introduced by *Flame Seal Products Inc.* to the Nuclear Power Industry for needed upgrading of existing fire protection on cable trays and conduits. At *Omega Point Laboratories* Flame Seal achieved success where many other companies failed due to the fact that the "**FBS® System**" has performance capabilities in a class by itself. The unique design allows for a thin material during normal operations with a low insulative value. When a fire exposure occurs, the innovative design begins to go through dramatic changes as the layers expand and fill with "a compacted carbon intumescent material, creating a high insulative value while producing *cooling* endothermic reactions within the coating matrix". "**FBS® System**" is currently being used by the Petrochemical Industry on a global basis

**COMPETITION ...** All Competitors in this field suffer from one or more of the following weaknesses. "**FBS® Fire Barrier System**" does not. Some comparisons are:

**AMPACITY DERATING ...** One of the main problems with protecting cable trays and conduits is Ampacity Derating. The "**FBS® System**" circumvents this issue due to the fact that such high volume expansion yields tremendously increased insulation properties "during a fire", yet is a system of minimal thickness during "normal operating conditions".



FBS with PVC COVER

Type:	Competitors:	FBS® System:
<b>Density:</b>	Very heavy material (creating Support design problems)	Light to – moderate weight (well within safety margins of existing support systems)
<b>Thickness:</b>	When using insulation higher levels of protection are achieved only by increasing thickness which causes clearance problems in areas with limited space.	Less than 1/2" thick for <i>most</i> applications
<b>Ampacity Derating:</b>	Insulations and Endothermics have this Problem.	As noted above, <b>FBS® System</b> does <i>not</i> have this problem.
<b>Labor Costs:</b>	Most technologies require exacting seams and staggered joints, multiple layering, etc. which creates very high labor costs.	<b>FBS® System</b> is a simple, one layer process that is easy to install due to the expanding effect of <b>FX-100® Fire Protective Coating</b> within the system. ( Results: Labor costs are reduced. )

**Non Toxic, Non Hazardous**

**Not Harmful to Plants or Animals, (No PBDEs - Polybrominated diphenyl ethers)**

"The Best Essential Solution"

Asia Regional Authorized Distributor





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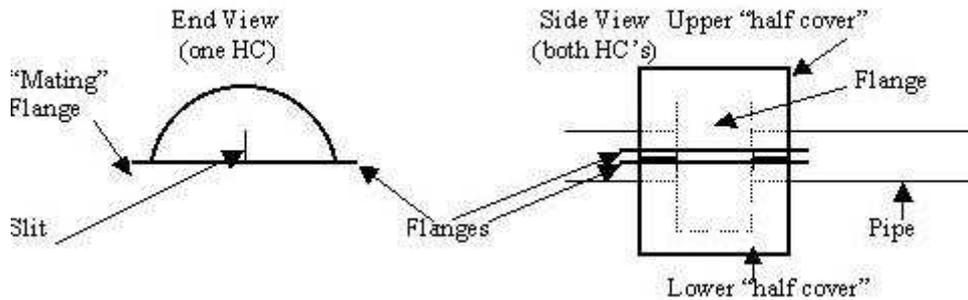
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#### **2. FBS® - J JACKET COVER SYSTEM.**

**2. FBS® - J JACKET COVER SYSTEM.** FLANGE COVER JACKETS were designed for use on Fiberglass Flanges to upgrade their fire resistive performance to compete with steel flanges on offshore oil rigs. Original Fiberglass Flanges cannot survive a 30-minute fire test without allowing the flange gasket to leak excessively. These jackets have passed an ASTM F-1173 test to allow the flanges to pass a level 3, 30 minute test, per Appendix 1, Section 7 of the ABS guide for offshore Fire Endurance Testing of Water Filled Plastic Piping. The finished material is approximately 3/4" thick and weighs 1.25 - 1.5 lbs. / sq. ft.



**FLAME SEAL®**



**FBS SYSTEM®**



**FLANGE COVERS**



**FLAME SEAL®**



**FBS SYSTEM®**



**ACTUATOR COVERS**

**FBS®- JACKET Test Taken by Smith Fibercast: 30 Minute Test: ASTM F-1173**  
Fiberglass Piping System Flange tested at 1800°F, 36,011 Btu/(hr-ft<sup>2</sup>) with 15 Minute 150psig Hydrostatic Leak Test

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