



**YOVANN'S CO.™**  
**COMMITTED TO SAVE ENERGY**



**EMERGENCY PIPE REPAIR**



**TROPHÉE DE L'EXCELLENCE TOTAL**

**BEST PRACTICE EXXONMOBIL**



**WHY**

*Fixing steam leaks with  
method is important :*

**YOVANN'S Co.**

*Steam and condensate leaks cost petrochemical plants millions of dollars:*

- In lost energy*
- Increasing emissions*
- Creating safety hazards*
- Lowering the reliability of plant operations*

*Supplier in petrochemical industry since 1990,*

*YOVANN'S Co. has worked out a system that allows to repair pipes*

***UNDER PRESSURE OR PRESSURE SHUT DOWN***

*This system is a perfect solution for emergency repair of leaks which can  
interrupt the process of production.*

*These repair allow to postpone the definitive reparation for months, even years.*

***Fixing small steam leaks will last for years***

*While plant personnel would be well advised to pay attention to all utility losses,  
greater attention should be paid to the costs and problems associated with  
losses related to steam.*

*Make sure your operators know what they are doing and the impact that they can  
have on the total cost of production.*

*Ensure you have well trained operators*

***YOVANN'S Co. PROVIDE TO YOURS OPERATORS***

***- FREE OF CHARGE TRAINING -***

*Fixing steam leaks with  
YOVANN'S Co. product is an easy and low cost way of decreasing operational  
cost and increasing energy efficiency.*

***Feel free to contact YOVANN'S Co. for any additional information:  
demonstrations, on site application, operators training ...***

***info@yovannsco.com***

## EMERGENCY PIPE REPAIR

FOR ALL TYPES OF FLUIDS AND PIPES

REPARATIONS WHICH CAN WITHSTAND UP TO **45 Bar** AND **300°C**

THREE PRODUCTS ARE ASSOCIATED ACCORDING TO

### TWO POSSIBLE CASES

#### PRESSURE SHUT DOWN



Start with  
**FS Acier Rapide**

#### UNDER PRESSURE



Start with  
**Ruban RS-HT**

1



1



2



2



Cover with

**Bande PR**



**MECHANICAL MAINTAINING  
COMMON TO TWO VARIANTS**

FOR CHEMICAL COMPATIBILITY SEE OUR WEBSITE : [www.yovannsco.com](http://www.yovannsco.com)

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# PRESSURE SHUT DOWN

## **F.S. STEEL EPOXY®**

CODE : 1002



### TECHNICAL DATA

COMPRESSIVE STRENGTH .....	122 MN/m <sup>2</sup>
SHORE D HARDNESS .....	90
SERVICE TEMPERATURE .....	- 55°C to + 250°C
WORKING / USABLE LIFE at 20°C .....	3 min.
INITIAL SET .....	5 - 7 min.
FULL SET .....	1 hour

## **F.S. HT 350°**

### TECHNICAL DATA

- MIXTURE OF TITANIUM
- ANY MIXES TO MAKE
- READY TO BE USED IN 2 MINUTES
- CURES IN 60 MINUTES (COMPLETE POLYMERIZATION 48h)

TEMPÉRATURE OF USE MAX ..... **+350° C**



CODE : 1002HT

## **WATER STOP**

### TECHNICAL DATA

- MIXTURE OF EPOXY
- STICK ON WET OR IMMERGED SURFACES
- ANY MIX TO MAKE
- READY TO BE USED IN 2 MINUTES
- CURES IN 20 MINUTES (COMPLETE POLYMERIZATION 24h)

TEMPÉRATURE OF USE MAX ..... **+150° C**



CODE : 1006

### DIRECTION OF USE

CUT DESIRED QUANTITY, REMOVE PROTECTIVE FILM PLASTIC, MIXING BETWEEN FINGERS UNTIL UNIFORMLY COLORED .

AFTER 5-10 minutes **F.S. STEEL EPOXY** WILL HARDEN AND START TO FORM A TENACIOUS BOND - FULLY CURED IN ONE HOUR





# **YOVANN'S Co.**

## **PRESSURE SHUT DOWN**

### **F.S. STEEL EPOXY + Bande PR**



**1. BENT LINE OF 10"**



**2. RIP ON 11.81"**



**3. CLOSING THE HOLE WITH F.S**



**4. RECOVERY WITH BANDE PR**



**5. DURATION OF INTERVENTION 1H**



**6. COMMISSIONING 2H AFTER**

**Ø 10" - STEAM LP**

# PRESSURE SHUT DOWN MECHANICAL REINFORCEMENT

## **Bande PR<sup>®</sup>**



### TECHNICAL DATA

TENSILE STRENGTH ..... 35 MPa

MAX.SERVICE TEMPERATURE ..... + 300°C

WORKING / USABLE LIFE ..... 1 to 5 min.

INITIAL SET. .... 7 to 10 min.

FULL MECHANICAL STRENGTH ..... 30 to 45 min.

Code: 1004 L = 7.5 cm x 280 cm

Code: 1004 XL = 15 cm x 560 cm



Code:1004 L  
Ø 1" to 4"



Code:1004 XL  
Ø 5" to 12"

### DESCRIPTION

**Bande PR** IS A FIBRE REINFORCED POLYURETHANE REPAIR TAPE DESIGNED FOR THE RAPID REPAIR OF CRACKS AND LEAKS IN MOST TYPES OF PIPEWORK ENCOUNTERED IN THE ENGINEERING, CHEMICAL, MARINE AND OTHER INDUSTRIES

**Bande PR** WORKS ON WET, DRY, DIRTY OR CORRODED PIPES EVEN WORKS UNDER WATER... SALT OR FRESH ACTIVATED BY WATER IT CURES TO PRODUCE A TOUGH CHEMICAL RESISTANT WRAP AROUND PIPE.

**NOT TOXIC** CONTAINS A URETHANE PRE-POLYMER, WHICH IS NOT CLASSIFIED AS HAZARDOUS.

**EASY TO USE** NO MIXING, REPAIRED PIPES CAN BE RETURNED TO SERVICE IN LESS THAN THIRTY MINUTES.

**RESISTANT** TO MOST CHEMICALS INCLUDING: MEK, ACETONE, SULPHURIC ACID, ETHYL ALCOHOL, GASOLINE, TOLUENE, DIESEL, VARSOL, CRUDE OIL, HYDRAULIC OIL ...

FOR VIDEO DEMONSTRATION AND CHEMICAL COMPATIBILITY visit our internet site :

[www.yovannsco.com](http://www.yovannsco.com)

# **PRESSURE SHUT DOWN** **MECHANICAL REINFORCEMENT**

## **Bande PR<sup>®</sup>**

**START APPLYING**

**F.S. Steel Epoxy**  
or  
**Ruban RS-HT**  
**BEFORE**  
**Bande PR**

### **DIRECTION FOR USE**

**CLEAN AND ROUGHEN AREA TO BE REPAIRED**  
**A CLEAN SURFACE RESULTS IN A SUCCESSFUL REPAIR**

**PRESSURE SHUT DOWN - AT FIRST START APPLYING A**  
**PLUG OF F.S. STEEL EPOXY OVER THE HOLE**

**UNDER PRESSURE - FOR LEAKS WHERE PRESSURE CANNOT**  
**BE REMOVED, FIRST START WITH Ruban RS-HT UNTIL THE**  
**LEAK HAS STOPPED**



**CUT ALUMINUM POUCH**

**1**



**MOUNT STEEL WINDER**

**2**



**SOAK IN TEMPERATE WATER**  
**FOR 20**

**3**



**WRAP TIGHTLY**

**4**

- **USING GLOWES, REMOVE BANDAGE FROM THE FOIL POUCH**
- **IMMERSE IN TEMPERATE WATER FOR 20-30 seconds**
- **WRAP TIGHTLY AND QUICKLY, USING ENTIRE ROLL**  
**EXTEND APPROX. 8 to 10 cm ABOVE AND BELOW THE**  
**DAMAGED AREA**
- **WET GLOVES IN WATER, SQUEEZE AND MOLD**  
**TAPE IN THE DIRECTION OF THE WRAP, REMOVING**  
**ANY EXCESS RESIN UNTIL TACKY TO TOUCH (3 min.)**
- **WAIT 30 min. BEFORE RETURNING TO NORMAL**  
**OPERATING PRESSURE**
- **REPAIR, BUILD UP TO A THICKNESS OF APPROX. 10 mm**  
**(12 CIRCUM) OVER THE LEAK**
- **HIGHER PRESSURE UP TO 45 Bar CAN BE ACHIEVED BY**  
**FIRST APPLYING OVER THE LEAK A «PLUG» OF**  
**F.S. STEEL EPOXY<sup>®</sup>**



# **PRESSURE SHUT DOWN** **MECHANICAL REINFORCEMENT**

## ***Bande PR***<sup>®</sup> **- USER CHART -**

**CODE: 1004L = 7.5 cm x 280 cm      CODE: 1004XL = 15 cm x 560 cm**

**PIPE DIAMETER / NUMBER OF *Bande PR***

<b>PIPE DIAMETER Ø mm / inch</b>	<b>DIAMETER nominal</b>	<b>NUMBER OF <i>Bande PR-L</i> FOR 8 CIRCUM</b>
33,4 / 1"	DN 25	ONE
60,3 / 2"	DN 50	TWO
88,9 / 3"	DN 80	TWO
114,3 / 4"	DN 100	THREE
<b>LARGE DIAMETERS USE <i>Bande PR-XL</i></b>		<b>15cm x 560cm</b>
168,3 / 6"	DN 150	ONE
273,0 / 10"	DN 250	TWO
323,8 / 12"	DN 300	THREE

This table is for guidance purposes only.

### **APPLY**

***F.S. ACIER RAPIDE* BEFORE *Bande PR***

**( SEE SHEMA page 12 )**





# **PRESSURE SHUT DOWN** **MECHANICAL REINFORCEMENT**

## **Bande PR<sup>®</sup>**

- 1. START APPLYING A « PLUG » OF F.S. STEEL EPOXY**
- 2. WRAP TIGHTLY **Bande PR** AROUND PIPE**



**1**

**2**

**PIPE Ø 3" - ISOMERAT**

# UNDER PRESSURE

## **Ruban RS-HT<sup>®</sup>**



**Code 5200 : -**

**L. 200 cm - W. 5 cm - Tick 1.00 mm**  
**under pressure repair up to 7 Bar \***



**Code 4100T :**

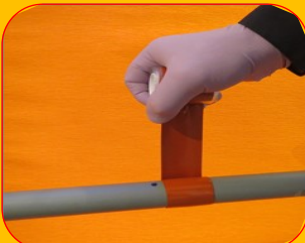
**L. 100 cm - W. 4 cm - Tick 1.50 mm**  
**under pressure repair from 7 to 10 Bar \***

**\* pipe pressure at moment of applying Ruban RS-HT, after covering with Bande PR, repair can withstand up to 45 Bar service pressure**

### DESCRIPTION

**Ruban RS-HT** IS A SELF FUSING TAPE THAT CAN BE USED TO PROVIDE A HIGH TENSION WRAP THAT WILL CREATE AN ENDURING SEAL UNDER EXTREME CONDITIONS

**Ruban RS-HT** IS A NON-TOXIC, EASILY APPLIED, INSTANT REPAIR ABRASION AND TEAR RESISTANT, NEAR TO 0% WATER ABSORBENT, EXCELLENT CHEMICAL RESISTANCE



### TECHNICAL DATA

**SERVICE TEMPERATURE** ..... - 90°C to + 280°C  
**STRETCH TO MAXIMUM** ..... 300%

**SHORE A HARDNES** ..... 50  
**TENSILE STRENGTH** ..... 700 Psi

### DIRECTION FOR USE

**START 4 - 5 cm FROM LEAK AREA**  
**APPLY WITH MAXIMUM STRETCH ON EACH LAYER**  
**WRAP A HALF LAP BEYOND THE PREVIOUS LAYER**  
**CONTINUE WRAPPING UNTIL THE TAPE EXTENDS**  
**4 - 5 cm EACH SIDE OF LEAK AREA**  
**DO NOT CHASE THE LEAK AS EACH WRAP PROVIDES**  
**ADDITIONAL PRESSURE OVER THE LEAK**  
**CONTINUE TO WRAP UNTIL THE LEAK HAS STOPPED**



# **YOVANN'S Co.**

## **UNDER PRESSURE**

### **Ruban RS-HT + Bande PR**



1



2



3



4



5



6

**Ø2" - STEAM - 5 Bar - 150°C**

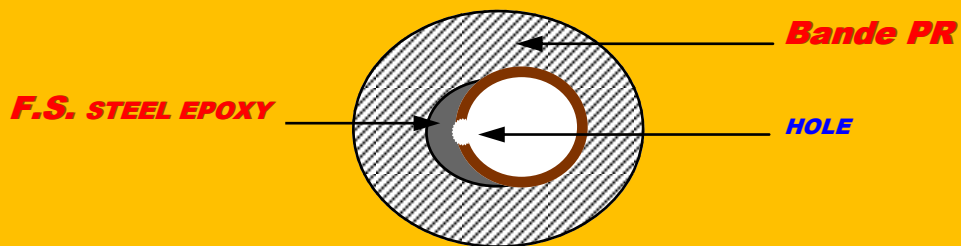
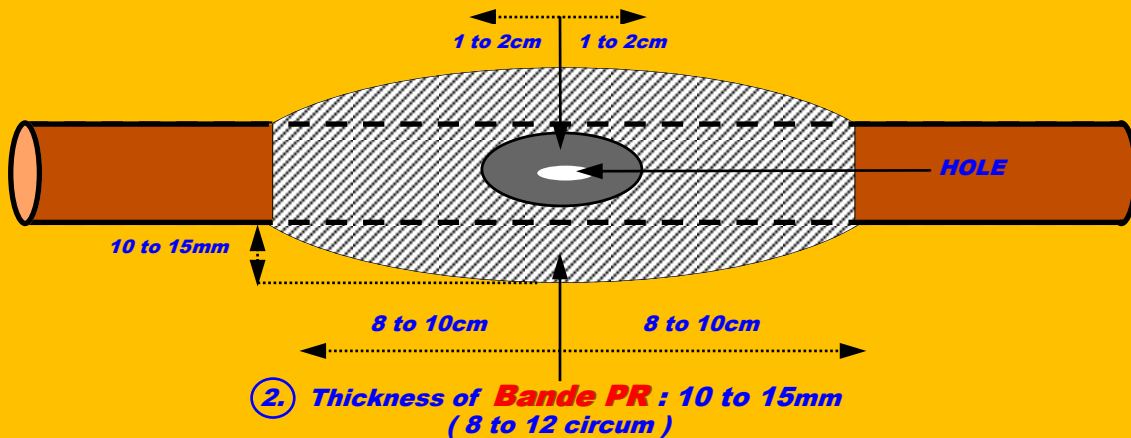
# YOVANN'S Co.

## FIXING LEAK WITH PRESSURE SHUT DOWN GUIDANCE FOR USE SHEMA

### START APPLYING F.S. STEEL EPOXY BEFORE Bande PR

① Thickness of **F.S. STEEL EPOXY** : 3 à 5mm

Apply over the hole a « Plug » of **F.S. STEEL EPOXY**  
Press firmly by extending beyond 1 to 2 cm around the hole



**PRESSURE SHUT DOWN**



**1. F.S. STEEL EPOXY**



**2. Bande PR**

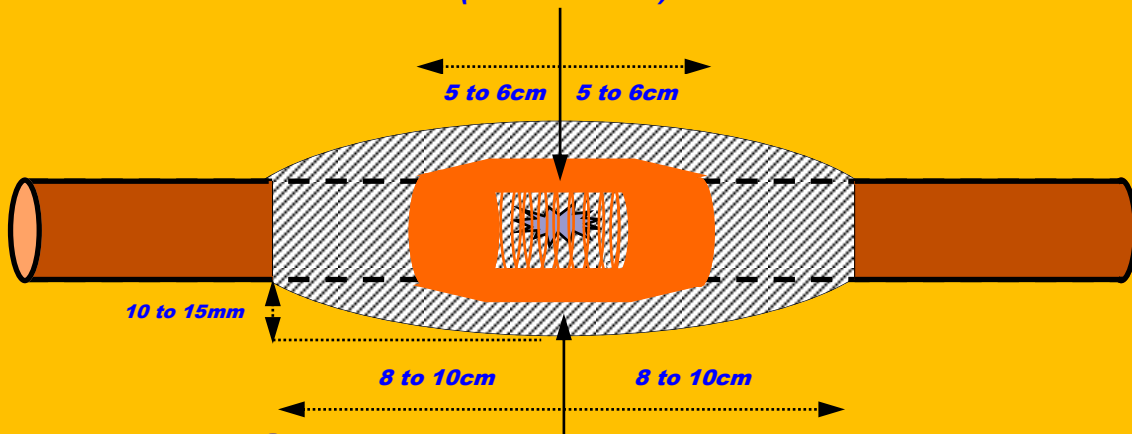


# YOVANN'S Co.

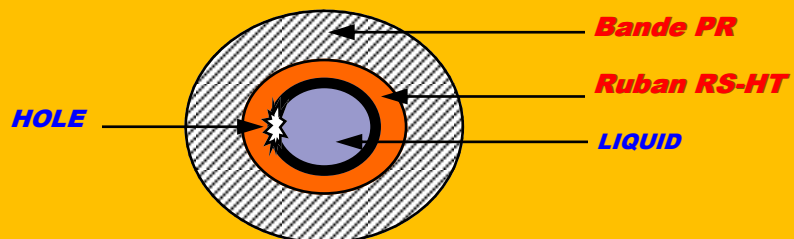
## **FIXING LEAK UNDER PRESSURE** **GUIDANCE FOR USE SHEMA**

**STOP THE LEAK WITH**  
**Ruban RS-HT BEFORE Bande PR**  
Maximum pressure **10 Bar** at moment of applying

① Thickness of **Ruban RS-HT** : 3 to 5mm  
( 5 to 7 circum )



② Thickness of **Bande PR** : 10 to 15mm  
( 8 to 12 circum )



**Steam 3 Bars**



**1. Ruban RS-HT**



**2. Bande PR**

# ***YOVANN'S Co.***

## **PRESSURE SHUT DOWN**

**MARCH 2015 - TORCH  $\varnothing$ . 4" - 9b - 180°C - HOLE 1" - IMPORTANT CORROSION**



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**JUNE 2015 - REPAIR OF STEAM PIPE FEEDING A TORCH**  
 **$\varnothing$ . 4" - Pressure 23/30 Bars - Temp. 220/250°C**





# **YOVANN'S Co.**

## **UNDER PRESSURE**

**GAS STEELWORKS - Pressure 140 mg - Ø. 4" - 2 Holes - IN SERVICE SINCE MAY 2013**



### **FEEDBACK OF REPAIR MADE IN 2010**

**LINE DOUBLE ENVELOPE FUEL / STEAM 185° C - Ø 2" - 9.5 Bars**



**INTERVENTION  
FEBRUARY 2010**



**IN SERVICE :  
2011 - 2012 - 2013**



**LEAK APPEARED AFTER 47 MONTHS IN SERVICE  
JANUARY 2014**



**JANUARY 2014 RECOVERING WITH : Ruban RS-HT + Bande PR**



**FEBRUARY 2015**

- **ON SITE APPLICATIONS** -
- **VIDEO DEMONSTRATION** -
- **CHEMICAL COMPATIBILITY** -

visit our internet site :  
**[www.yovannsco.com](http://www.yovannsco.com)**

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**Excellence Trophy 2012**  
This distinction rewards work in partnership with teams

