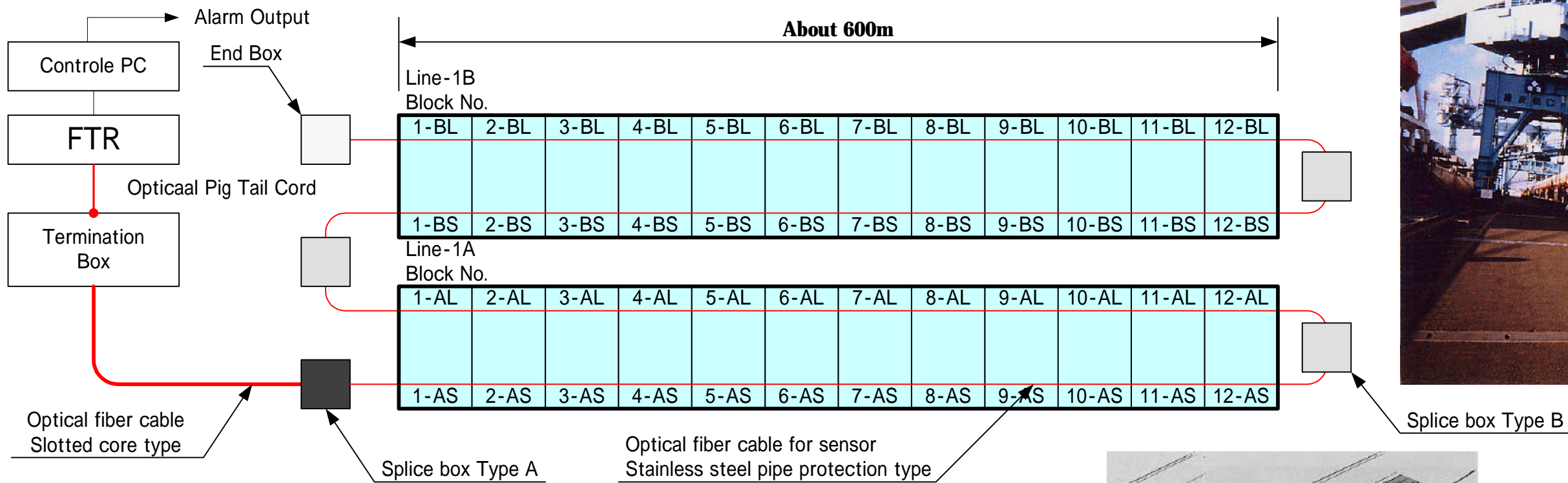


A Fire detection system of a belt conveyor with FTR

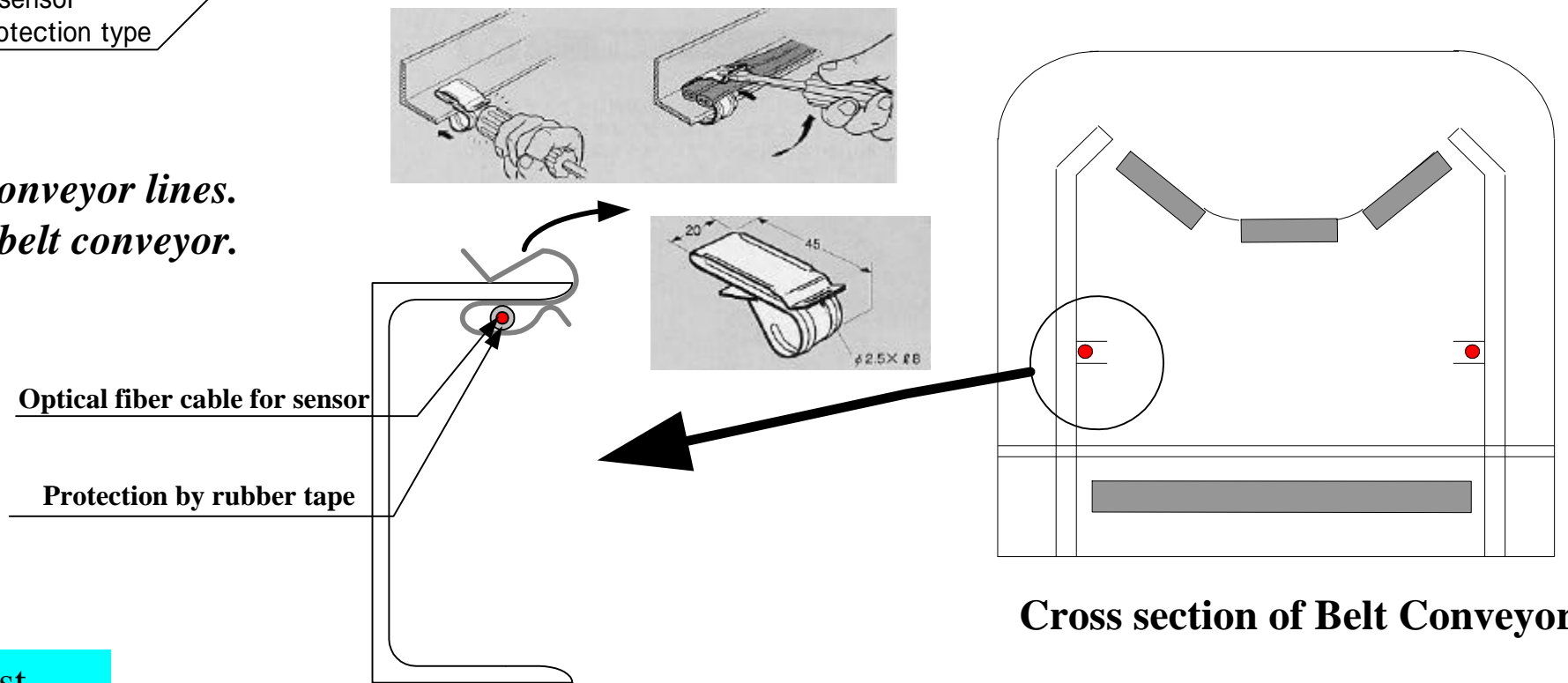
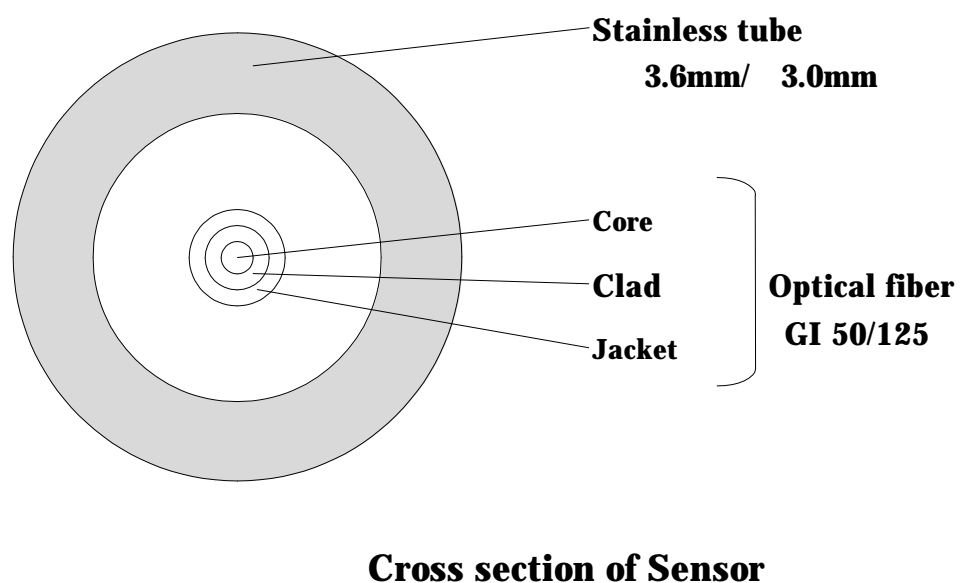
1. Outline of System



2. Characteristic and Introduction Merits

- (1) Since the Fiber is non-explosive it can be installed in Belt conveyor lines.
- (2) The Cost merits is high by long-distance monitor along the belt conveyor.
- (3) The power supply is unnecessary in the sensor part.
- (4) Alarm setting is possible every monitor section.

3. Specification of optical fiber cable for sensor



4. Supply List

No	Customer	Fiber Length	Date
1	The Coal mining Resarch Center (Japan)	2.4km × 2ch	1990/5
2	The Coal mining Resarch Center (Matusima coal mining)	2km	1992/2
3	The Coal mining Resarch Center (Taiheiyou coal mining)	10km	1993/1
4	Chubu Electric Power Com pany (Hekinan Power Station)	7km	2000/12

Example of Instalation for Coal Mine

J-Power Systems

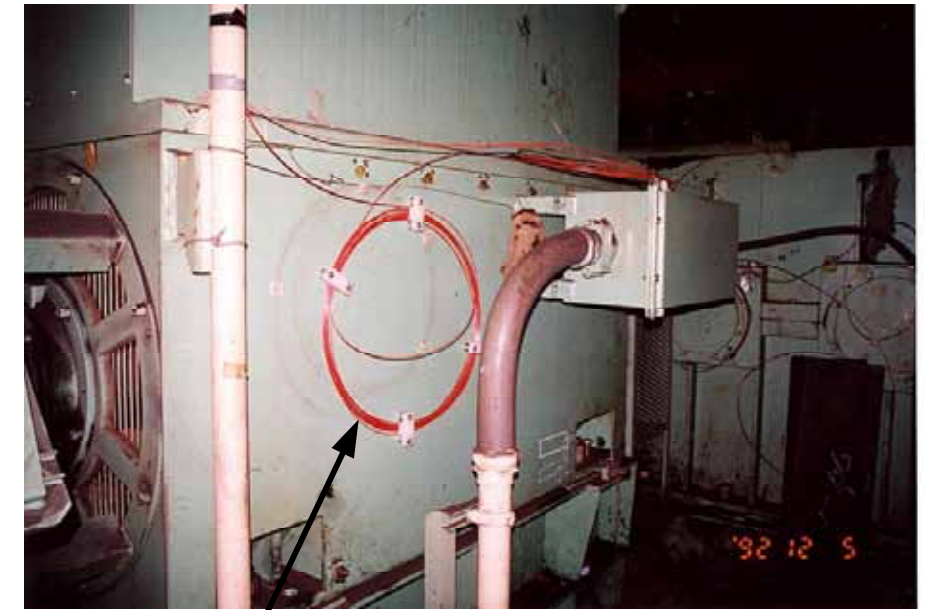


Cabinet

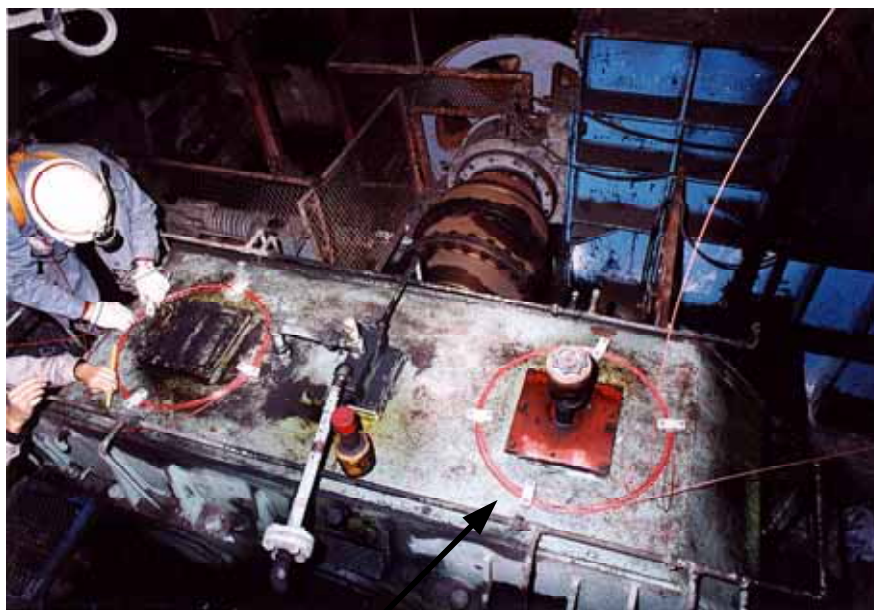


Sensor Fiber

Conveyer Line



Sensor Fiber



Sensor Fiber



Sensor Fiber

Moter Surface



Sensor Fiber

Ceiling

What is Fire factor of Belt conveyor?

Factor of Fire

Case 1 : Frictional heat of belt.

Case 2 : Malfunction of bearing of roller.

Case 3 : The coal which fell over a belt.

Case 4 : Total fire by various factors.

In the case of malfunction of bearing of a roller, it is effective to adopt various methods.

Example : Case 3 + Case 4



Optical fiber Sensor



Dropped Coal

