

# Silesian University of Technology Universidad Tecnológica de Silesia

# PREVIOUS STUDY AND REHABILITATION OF A BUILDING ESTUDIO PREVIO Y REHABILITACIÓN DE UN EDIFICIO

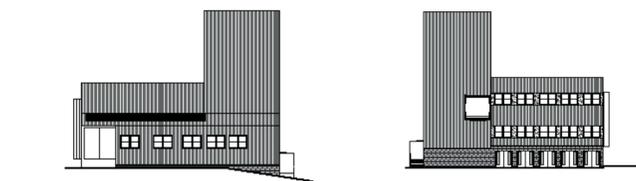
Poland is situated in the Eastern Part of Central Europe. Gliwice is located in Southern Poland one of the most important centres of innovation in Poland.

Polonia se encuentra en el centro de Europa. Gliwice es una de las ciudades más importantes de la innovación de Polonia y está situada al Sur.

The building, object of study was built in 1973. It is situated in Gliwice and It is located within the complex of The Silesian University of Technology "Politechnika Slaska" and specifically is the laboratory of Construction of Civil Engineering Department.

El edificio, objeto de estudio fue construido en 1973. Esta situado en Gliwice y se encuentra en el interior del complejo de la Universidad Tecnológica de Silesia "Politécnica Slaska", concretamente, es el laboratorio de Construcción del Departamento de Ingeniería Civil.

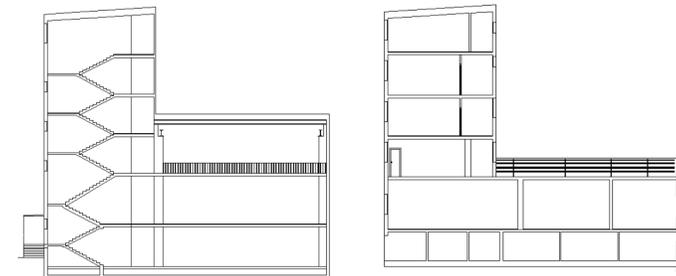
## STUDY BUILDING / ESTUDIO DEL EDIFICIO.



East elevation.  
Alzado Este.

West elevation.  
Alzado Oeste.

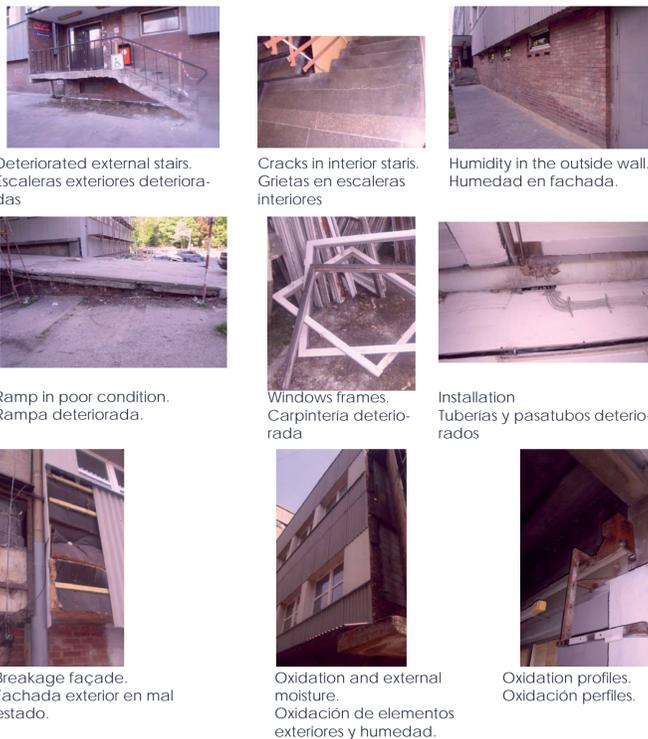
## SECTIONS / SECCIONES



Section A-A'  
Sección A-A'

Section B-B'  
Sección B-B'

## OBSERVATIONS AND EVALUATION OF THE PATHOLOGIES/ OBSERVACIÓN Y EVALUACIÓN DE PATOLOGÍAS



Deteriorated external stairs.  
Escaleras exteriores deterioradas

Cracks in interior stairs.  
Grietas en escaleras interiores

Humidity in the outside wall.  
Humedad en fachada.

Ramp in poor condition.  
Rampa deteriorada.

Windows frames.  
Carpintería deteriorada

Installation  
Tuberías y pasatubos deteriorados

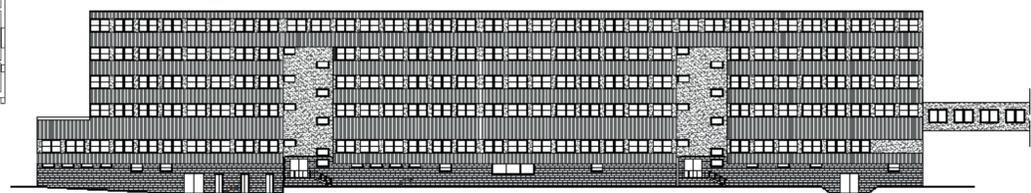
Breakage facade.  
Fachada exterior en mal estado.

Oxidation and external moisture.  
Oxidación de elementos exteriores y humedad.

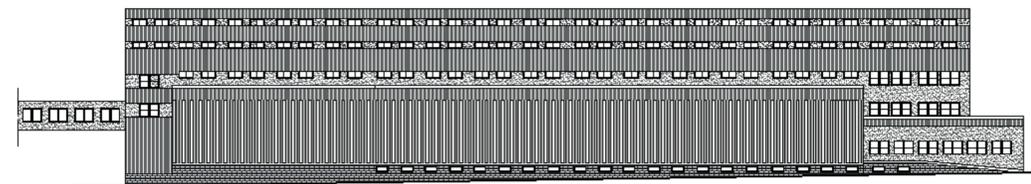
Oxidation profiles.  
Oxidación perfiles.

## EXAMPLE OF A PATHOLOGICAL TAB / EJEMPLO DE UNA FICHA PATOLÓGICA

BREAKAGE FACADE		5
<b>DESCRIPTION:</b> With step the years cement fibre corrugated plates have been deteriorated, leaving the interior discovered. Also all the facade does not comply with the thermal conditions. Global warming.		<b>LOCATION:</b> 
<b>PHOTOGRAPHS:</b> 	<b>POSSIBLE CAUSES:</b> Breakage facade - Because of the weather: rain and snow - Acts of vandalism warming of the facade - Insufficient rockwool thickness (insulation)	
<b>INTERVENTION:</b> Given that the facade finished with fibre corrugated plates and with smooth plates bolts does not meet regulations regarding thermal transmittance and is generally in in very poor condition. The recommendation would be to change the entire facade increased insulation rockwool and complying with:		
<b>Brick cladding (Basement floor)</b> Existing wall: $U = 2,33 \text{ W / m}^2 \text{ K}$ -> no cumple con la normativa Regulation: $U = 0,90 \text{ W / m}^2 \text{ K}$ Increasing the thickness of polyurethane insulation 5cm: $U = 0,41 \text{ W / m}^2 \text{ K}$		<b>Enclosure finish with smooth plates bolts:</b> Existing wall: $U = 4,55 \text{ W / m}^2 \text{ K}$ Regulation: $U = 0,65 \text{ W / m}^2 \text{ K}$ para $t \leq 16^\circ \text{ C}$ Increasing the thickness of rockwool 14cm: $U = 0,50 \text{ W / m}^2 \text{ K}$
<b>Enclosure finished with fibre corrugated plates:</b> Existing wall: $U = 1,49$ Regulation: $U = 0,30 \text{ W / m}^2 \text{ K}$ Increasing the thickness of rockwool 14cm: $U = 0,29 \text{ W / m}^2 \text{ K}$		

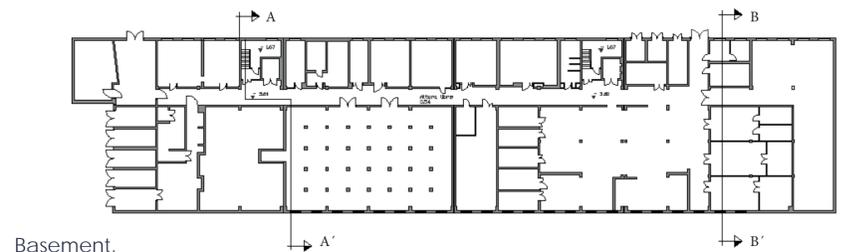


North elevation. In this elevation the building has two main pedestrian entrances.  
Alzado Norte. En este alzado el edificio tiene los dos accesos peatonales principales.

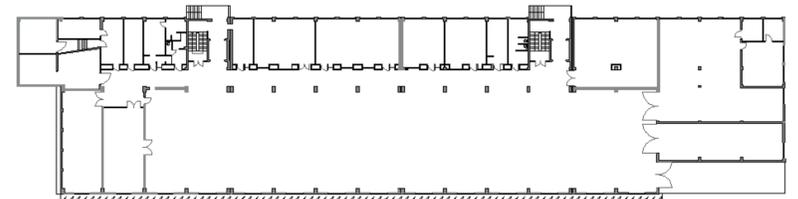


South elevation.  
Alzado Sur.

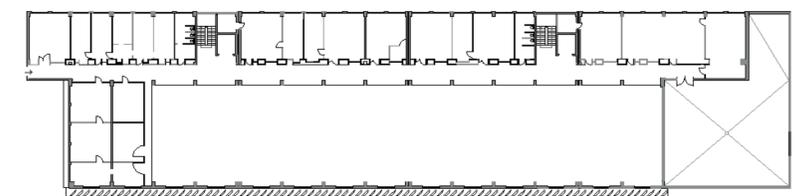
## FLOORPLANS / PLANTAS DEL EDIFICIO



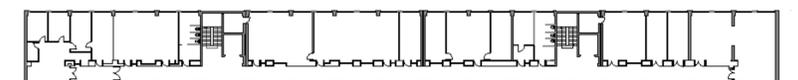
Basement.  
Planta sótano.



Ground floor.  
Planta baja.



First floor.  
Primera planta.



Rest of the plants.  
Resto de plantas

