TELEYA - INNOVATIVE ENVELOPES FOR SUSTAINABLE BUILDINGS: AN EVOLUTION OF THE DESIGN

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TELEYA
WHAT IS COOPSETTE…

Coopsette is a leader in the promotion and creation of large-scale, complex projects: the recovery and renovation of unused urban areas and the development and upgrading of new areas. Coopsette operates simultaneously in the construction of infrastructures, production of prefabricated structures, architectural envelopes, railway superstructures and office furnishing solutions, at the forefront of the market, offering clients high-level proposals that have enjoyed success in Italy and abroad.

- LARGE PROJECTS
- BUILDINGS
- PREFABRICATED STRUCTURES
- RAILWAY SUPERSTRUCTURES
- METHIS
- TELEYA
...AND WHAT ABOUT TELEYA...
MAIN PROJECTS

“Traditional” envelopes, technologically performing

- **Quality** [ISO 9001: 2000 (Vision 2000)]
  - of the **product**
  - of the **service**

- High performances
  - structural
  - technological
  - thermal
  - acoustic

- Life cycle
  - maintenance
  - management
  - energy saving
  - comfort

- Aesthetics

Rolando Paparcone
Palais de Justice - Melun, Jourda & Perraudin Architectes, 1996
Just Cavalli Café - Milan, studio Merighi; Martinez y Cabrera, 1999
Shopping mall - Sesto Fiorentino (FI),
INRES, Chapman & Taylor, 2002
Ansaldo Tower - Fiumara (GE),

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Students House - Pisa,
Arch. Salvatore Re, Werner Sobek Ingenieure (structures), 2006
Ponant III - Paris, Valode & Pistre Architectes, 2002
Ponant III - Paris, Valode & Pistre Architectes, 2002

Prototype at the exhibition: “Grandi Involucri” at SAIEDUE 2005
Ponant III - Paris, Valode & Pistre Architectes, 2002

“BREATHING FAÇADES”

External selective glass
Ventilated space
Internal safety glass
Aluminium shading with manual motion

Rolando Paparcone
A NEW APPROACH

Envelope has a main role in building energy management

FROM…

BUILDING + ENVELOPE

TO…

BUILDING

- Main goals
  - energy saving
  - comfort
  - low maintenance
  - easy management

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External air incoming

Internal metallic grid: reduce glare and improve visual comfort

Internal air outcoming

Vegetation for passive cooling

Atrium-greenhouse: distribution area mainly naturally warmed and cooled
Hospital - Mestre (VE), E. Ambasz, Studio Altieri s.p.a., 2006

Technological components...

...evaluation of thermal properties...

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Offices - Fiumicino (RM), Chapman-Taylor, 2006

Solar shading: aluminium venetian blind
Internal double glazing
Ventilated space
External laminated glazing
Offices - Fiumicino (RM), Chapman-Taylor, 2006
Boccabusa Area - Mantova, 2004
Boccabusa Area - Mantova,
2004
Boccabusa Area - Mantova, 2004

A NEW SYSTEM: CLIMATE FAÇADE
Envelope is strongly integrated with ventilation plant

AIRExtracted AND SENT TO PLANT / EXPELLED

Plenum for aspiration

Solar shading: aluminium venetian blind

External double glazing

Ventilated space

Internal glazing

Inlet air grid

EXHAUST AIR

Rolando Paparcone
Boccabusa Area - Mantova,
2004

Experimental activity: TWINS – Testing Windows INnovative SYstems at Energetics Department – Politecnico di Torino
BoccaBusa Area - Mantova, 2004

- Thermal comfort analysis

- Energy efficiency analysis
Boccabusa Area - Mantova, 2004
Boccabusa Area - Mantova,
2004
CONCLUSIONS

- A multidisciplinary approach is necessary to design innovative, responsive, building envelopes.

- A strategy to design and produce high performing innovative envelopes is to create a net of technicians with different, specific competences, who collaborate and integrate their knowledge.

- Research, inside company and with Universities and Research Centers has a role more and more strategic in order to ensure the best performances of our products.

- In last years the number of projects in which this kind of integrated approach has been adopted is increasing and it will increase in the future.