



source - ph. Alessandro Gadotti - Archivio Trento Futura



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“MuSe” science museum

Trento (I)

Building Details

CONTACTS

	Name	Website (or e-mail)
Owner	Castello SGR e	www.castellosgr.com
Architect	Renzo Piano Building Workshop	www.rpbw.com
Energy Consultant	Thesan S.p.A	www.thesan.com
PV Installer	-	-

BUILDING

Completion year	2013 Building	2013 PV Plant		
Category	New	Renovation	Enlargement	Other
Typology	Residential	Administration	Industrial	Sport
	Agricultural	Urban	Historical	Other

Building Energy Performance

kWh/m²y

-

Description

This intervention of MUSE (Museum of Science) by Renzo Piano is a part of transformation and urban renovation of ex-Michelin area in Trento. The building shape looks like surrounding mountains, with succession of volumes and empty spaces on a water mirror. The building, almost completely glazed, with 2 underground and 5 aboveground levels, has a geometric complexity due to 4 principle volumes and their connections. The sustainability is an important part of the design: the energy saving along with the extensive use of renewable sources; the choices of local materials; the careful envelope engineering; the use of natural lighting and ventilation systems. In 2013, as the first Italian museum, MuSe has been awarded by LEED Gold certification. The special building skin system, 60° sloped, integrates particular customized PV panels, specially made for this project, mounted on aluminium frames. All panels, that can be separately tilted to 15° for better orientation, use polycrystalline silver color silicon cells.

Acknowledgments

LEED Gold Certification 2013



SOURCE: Thesan-Savio group



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BiPV Details

LOCATION OF PLANT

Roof	Flat roof	Sloped	Curved	
Façade	Cladding	Balcony	Greenhouse	Curved
Glass	Façade	Roof	Solar shading	Canopy
Orientation	South	West	East	North
BiPV System	On-Roof Overlapped system (BAPV)			

ARCHITECTURAL EVALUATION

Color	Black
Transparency	Semitransparent
Frame	Aluminium frame

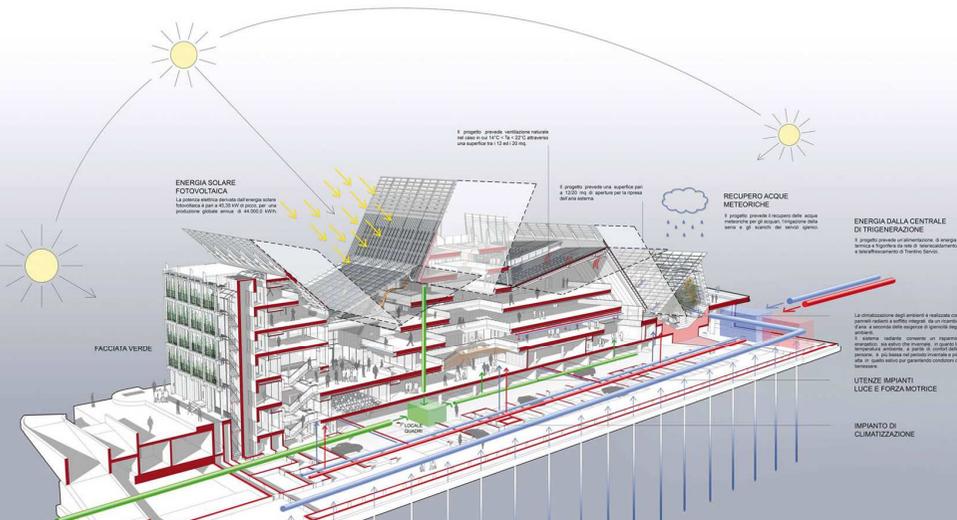
COSTUMIZATION LANGUAGE AT COMPONENT SCALE

PV CELL	MODULE LAYERING	MODULE FEATURES	DUMMIES
DESCRIPTION	Special panels installed on the roof through frames anchored to the metal coating (designed by Thesan).		

SPECIFICATION

Photovoltaic	Monocrystalline	Multicrystalline	Thin Film
PV Module	Cells	Polycrystalline silver color silicon cells	
	Module	n° 4192 Tedlar glass panels with high efficiency solar cells; n° 1500 glass-glass panels	
Power	kWp	312 (Total installation: MuSe + Le Abere District)	
Size	m²	5000 (Total installation)	
Energy production	kWh/year	-	
Cost	€/m²	-	

BiPV Details



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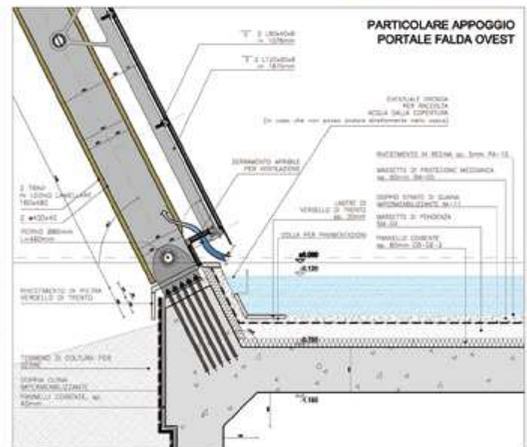
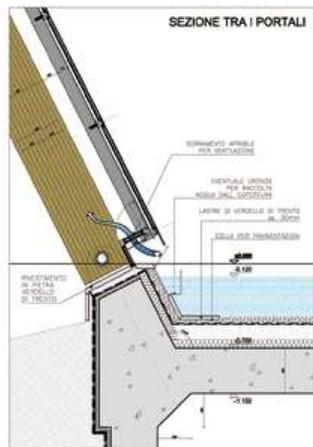
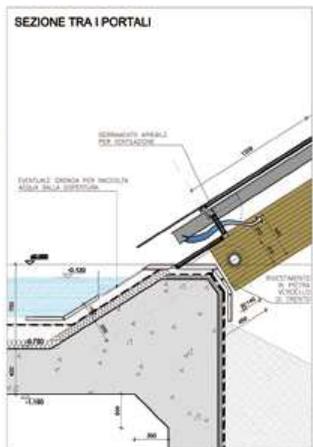
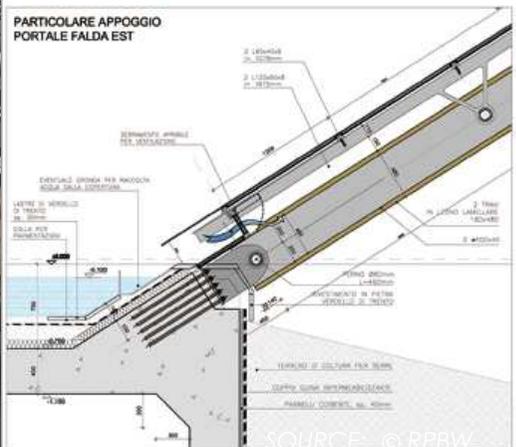
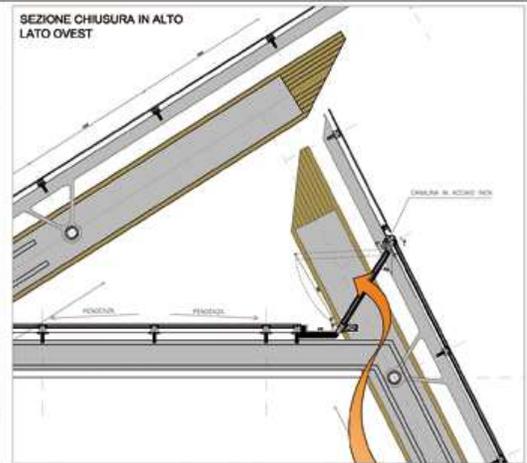
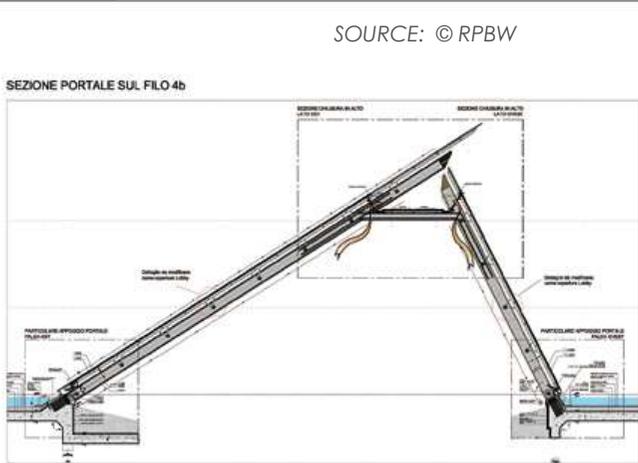
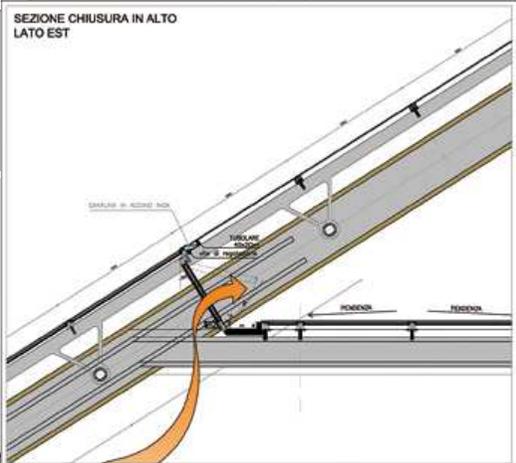
BUILDING SYSTEM INFORMATION

Trasparency	OPAQUE	TRASPARENT	G Value
Constructive system	MASSIVE BUILDING		LIGHTWEIGHT
Ventilation system	NOT VENTILATED	MICROVENTILATED	NATURAL VENTILATED
U value (W/m²K)			

ENERGY LAYOUT

GREEN HOUSE STRUCTURE - Details

SOURCE: © RPBW



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