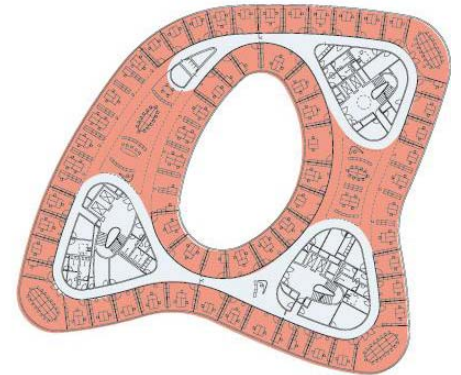
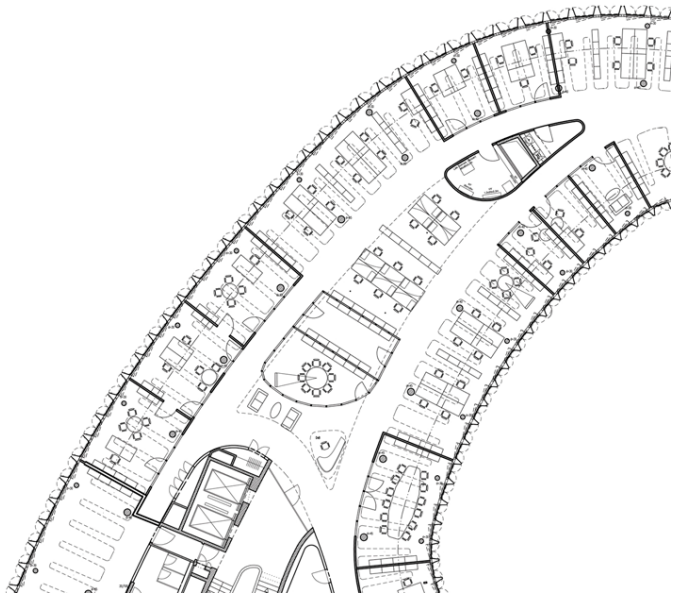


www.coo.de/

► Oval Offices in Cologne, Germany • **Sauerbruch & Hutton** + Transsolar

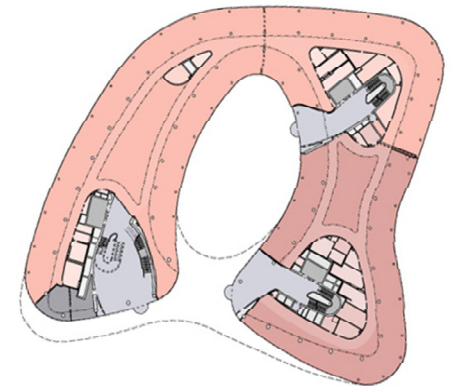
105 kWh/m² (33.3 kBtu/ft²)







The facades consist of full-height windows and fixed panels of insulated, double-glazed units. Occupants can open windows for ventilation and vertical, finlike glass louvers provide shade. They are computer-operated but can be manually overridden by control panels in each office.



ENERGIEAUSWEIS für Nichtwohngebäude
gemäß dem § 14 ff. Energieeinsparverordnung (EnEV)

Gültig bis: 28.03.2018 Aushang

Gebäude

Heizanlage	Bürogebäude
Gebäudeart	Bürogebäude
Sonderzone(n)	
Adresse	Gustav-Heinemann-Liter 72, 50968 Köln
Gebäudeart	"Cologne Oval Offices" - Haus 72
Baujahr Gebäude	2008 - 2009
Baujahr Klimaanlage	2008
Baujahr Klimaanlage	2008
Nettogrundsfläche	23.532 m²



Primärenergiebedarf „Gesamteffizienz“

Dieses Gebäude: 104,6 kWh/m²a



Aufteilung Energiebedarf

Heizung	~45 kWh/m²a	Kälte (mechan. Beheizung)	~15 kWh/m²a
Wärme	~15 kWh/m²a	Lüftung	~10 kWh/m²a
Kälte	~10 kWh/m²a	Gebäudebeheizung	~5 kWh/m²a
Wärme	~5 kWh/m²a	Wärme	~5 kWh/m²a
Wärme	~5 kWh/m²a	Wärme	~5 kWh/m²a

Aussteller:
Drees & Sommer GmbH
Andreas Fröhlich
Gürzenichstraße
50667 Köln

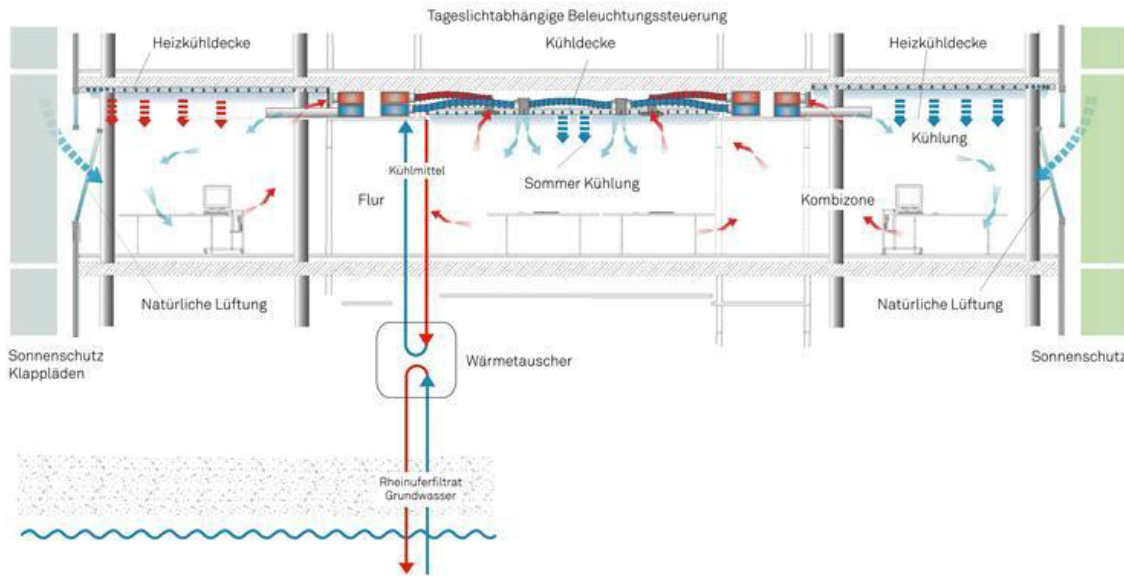
28.03.2008
Drees & Sommer
Energieeffizienz-Zertifikat
für Gebäudebeheizung, Lüftung, Kälte
Klimaanlage 2008/08
www.drees-sommer.de



WINTER

WINTER/SOMMER

SOMMER





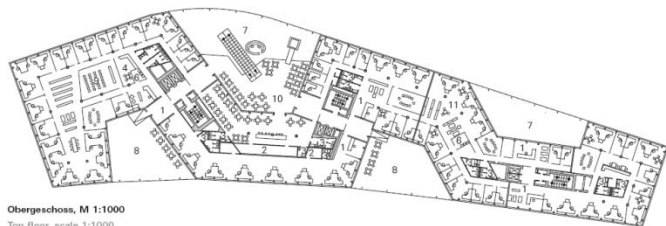
M.Schuler S.Holst T.Auer V.Bleicher



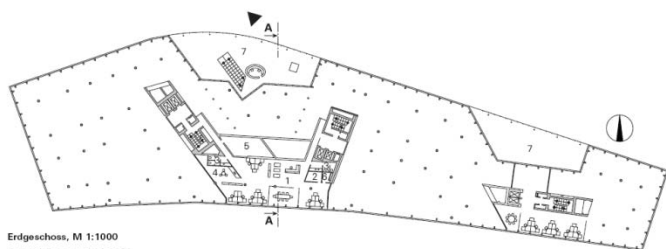
Matthias Sauerbruch & Louisa Hutton



COLOGNE **OVAL OFFICES**
am Gustav-Heinemann-Ufer



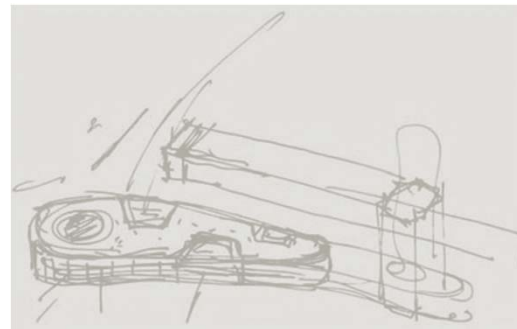
Obergeschoss, M 1:1000
Top floor, scale 1:1000



Erdgeschoss, M 1:1000
Ground floor, scale 1:1000

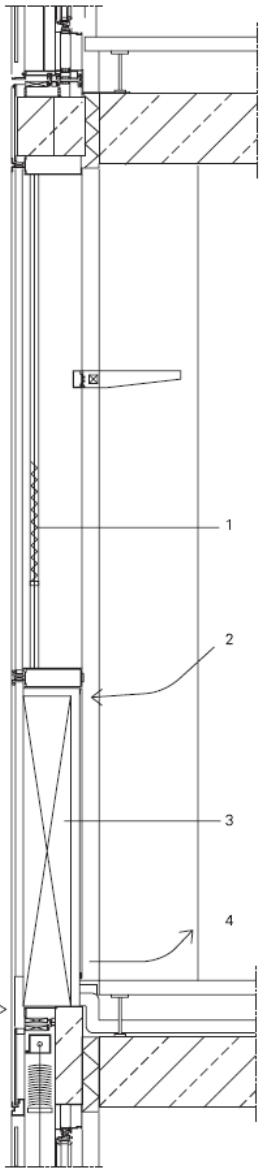
- 1 Empfang
- 2 Lager
- 3 WC
- 4 Teeküche
- 5 Gebäudeleitzentrale
- 6 Server
- 7 Luftraum
- 8 Atrium
- 9 Seminarraum
- 10 Cafeteria
- 11 Kombizone

- 1 Reception
- 2 Warehouse
- 3 Toilets
- 4 Small kitchen
- 5 Building control centre
- 6 Server
- 7 Air space
- 8 Atrium
- 9 Seminar room
- 10 Cafeteria
- 11 Multifunctional area

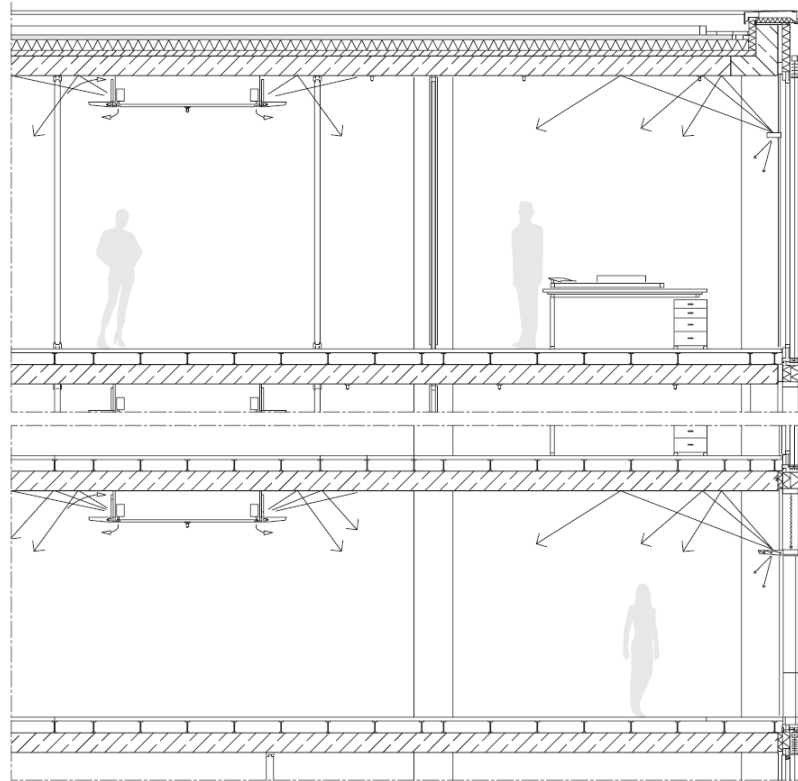


Elmar Schossig

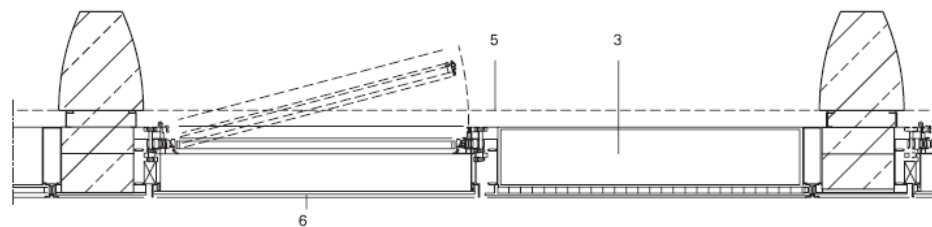




Detailschnitt vertikal, M 1:25
Section detail vertical, scale 1:25



Fassadenschnitt, M 1:100

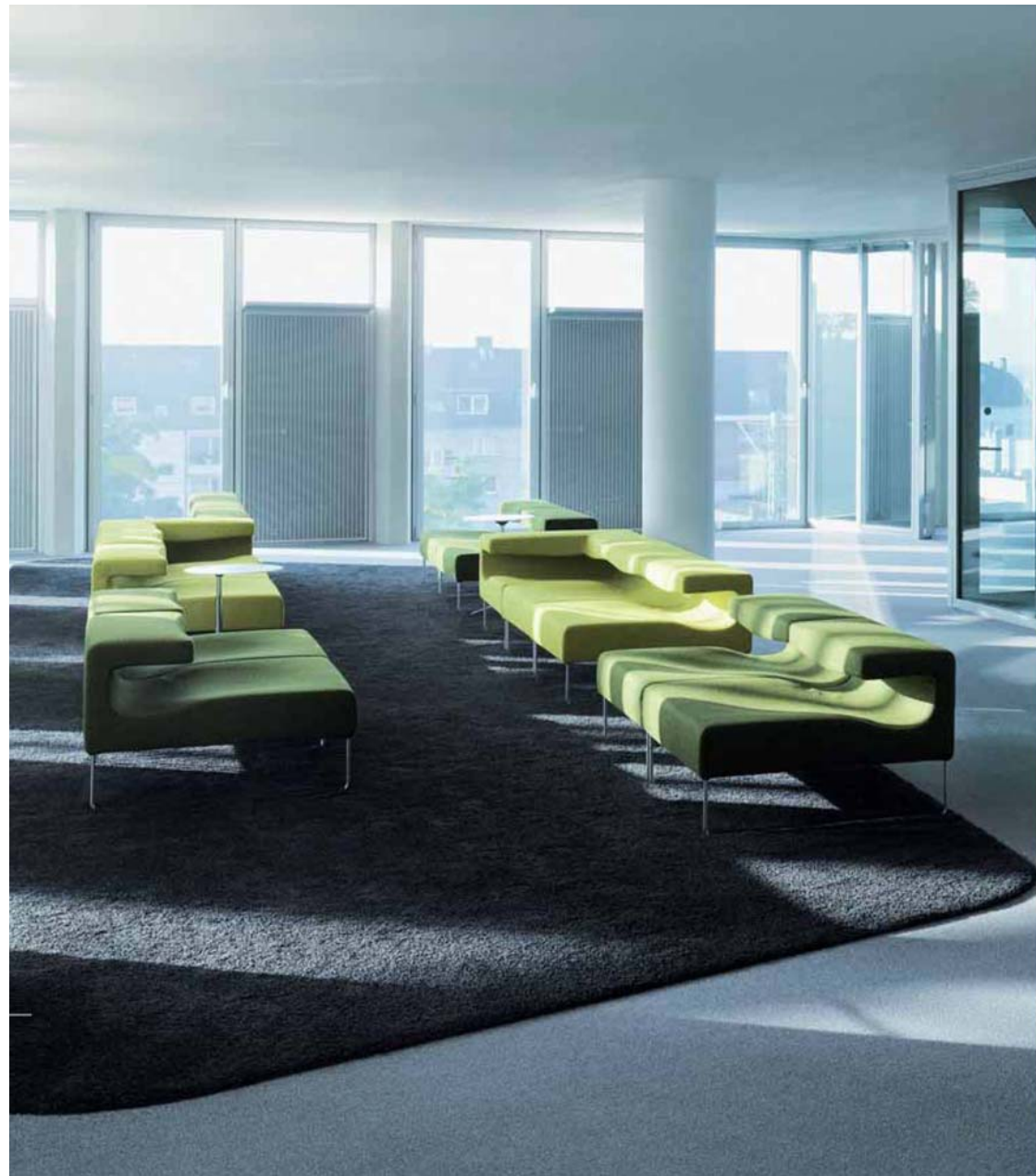
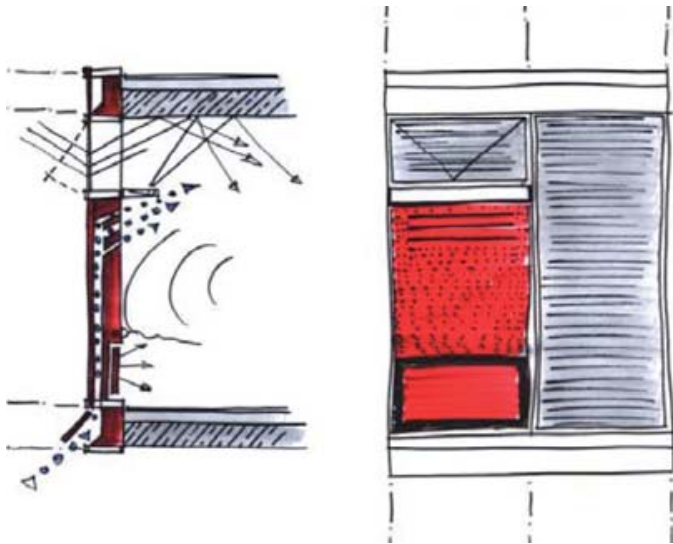


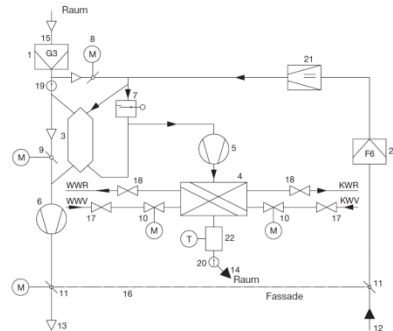
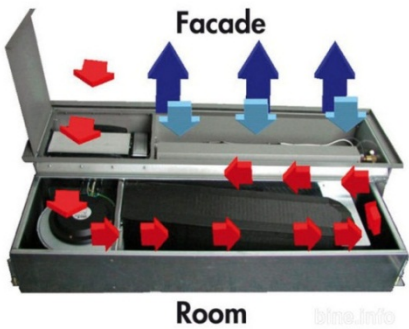
Detailschnitt horizontal, M 1:25
Section detail horizontal, scale 1:25

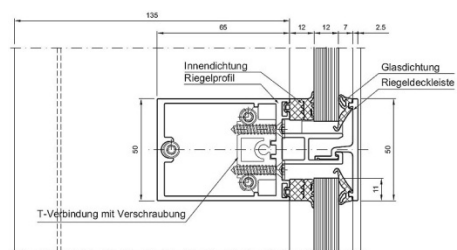
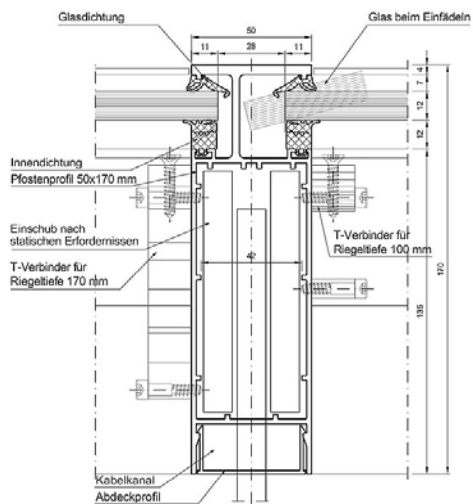
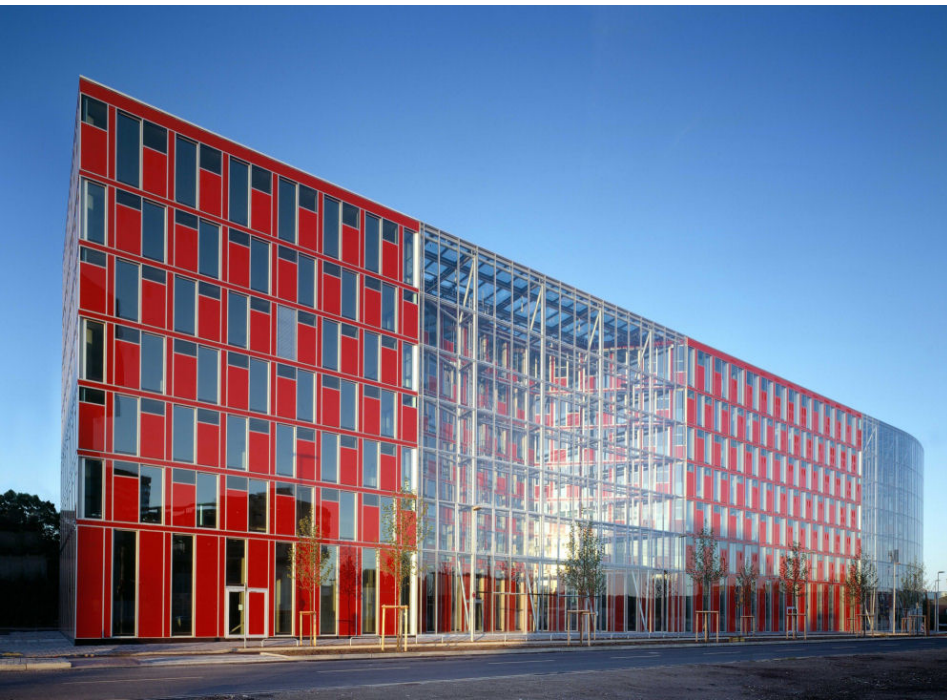


- 1 Innenliegender Blendschutz optional
- 2 Abluft
- 3 Lichte Tiefe – Lüftungsgerät
- 4 Zuluft
- 5 Isolierverglasung Drehflügel
- 6 Absturzsichernde Verglasung

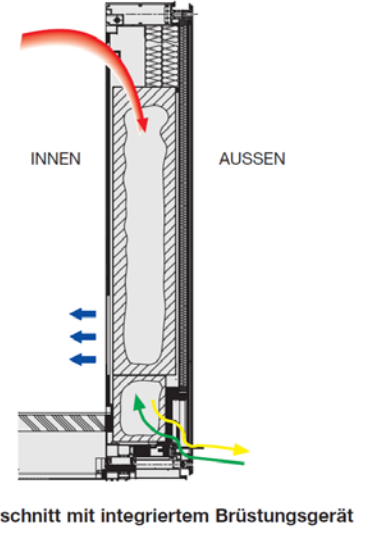
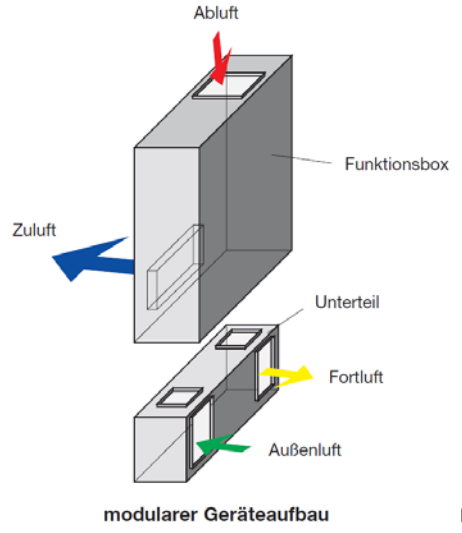
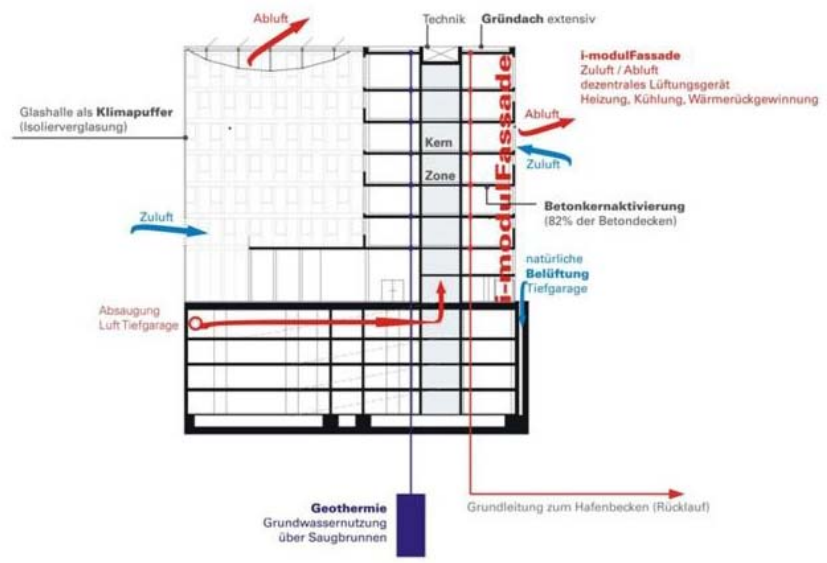
- 1 Optional internal glare protection
- 2 Exhaust air
- 3 Clear depth – ventilation device
- 4 Incoming air
- 5 Double-glazed side-hung vent
- 6 Safety barrier glazing







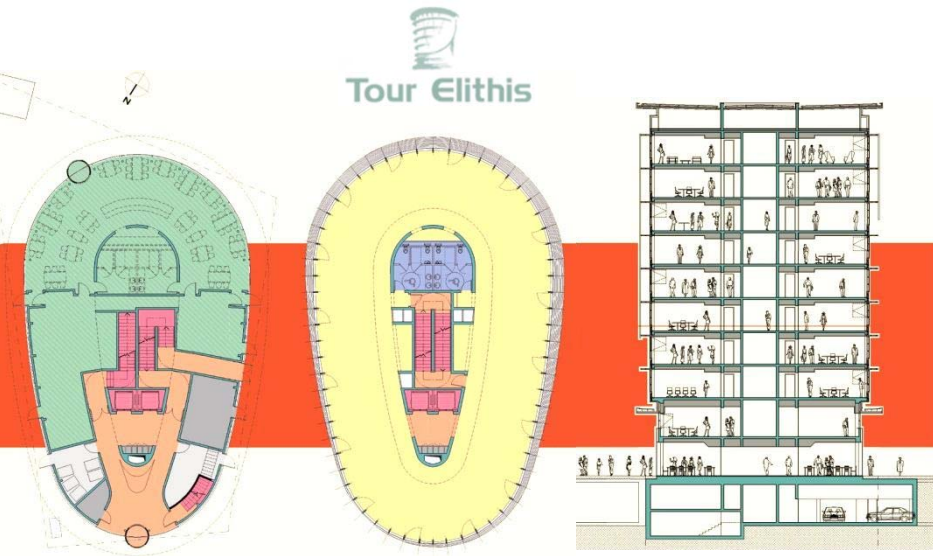
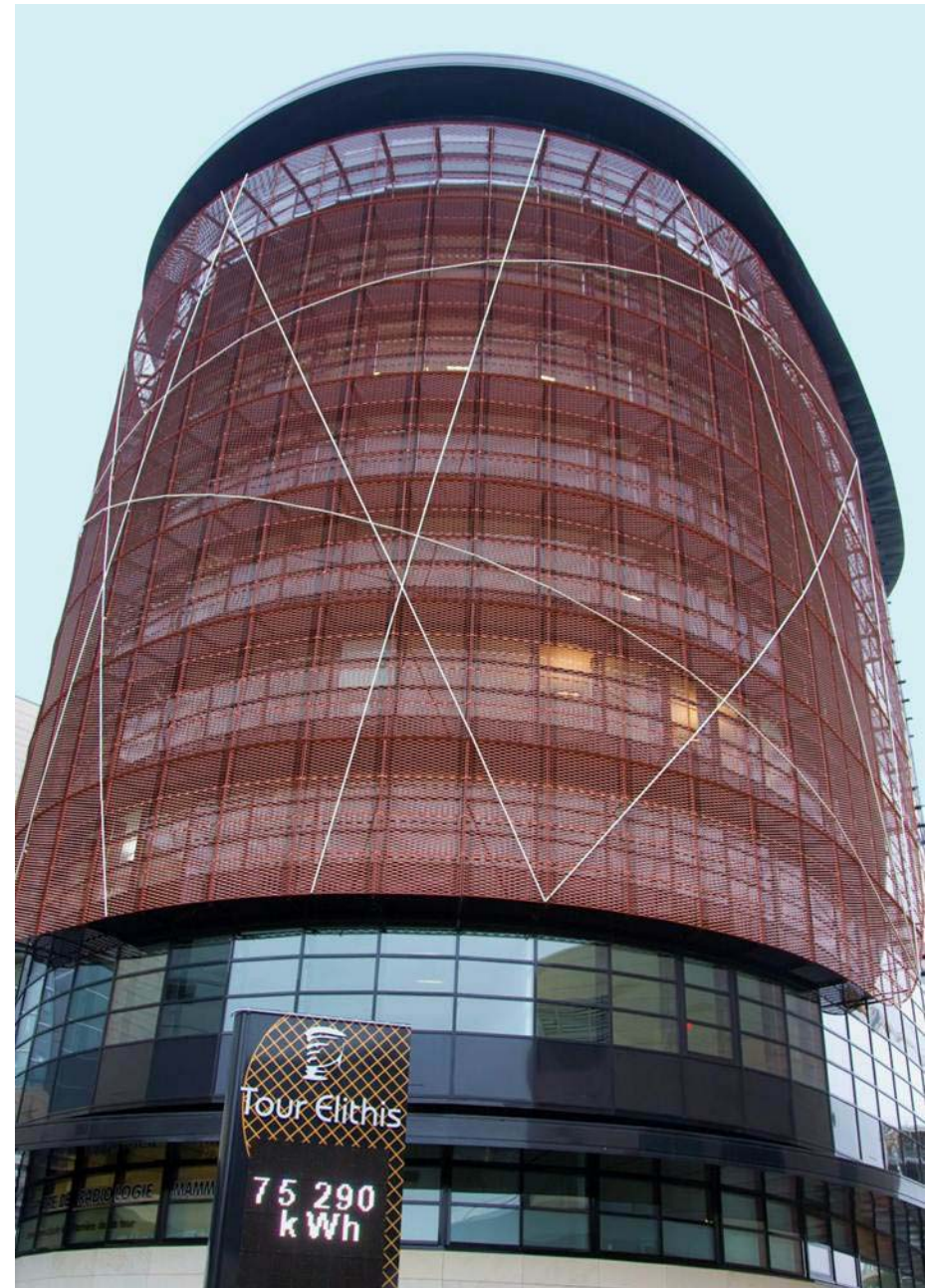
Raico "Shuffle" Framing



► Capricorn Haus Office in Düsseldorf, Germany • Gatermann + Schossig

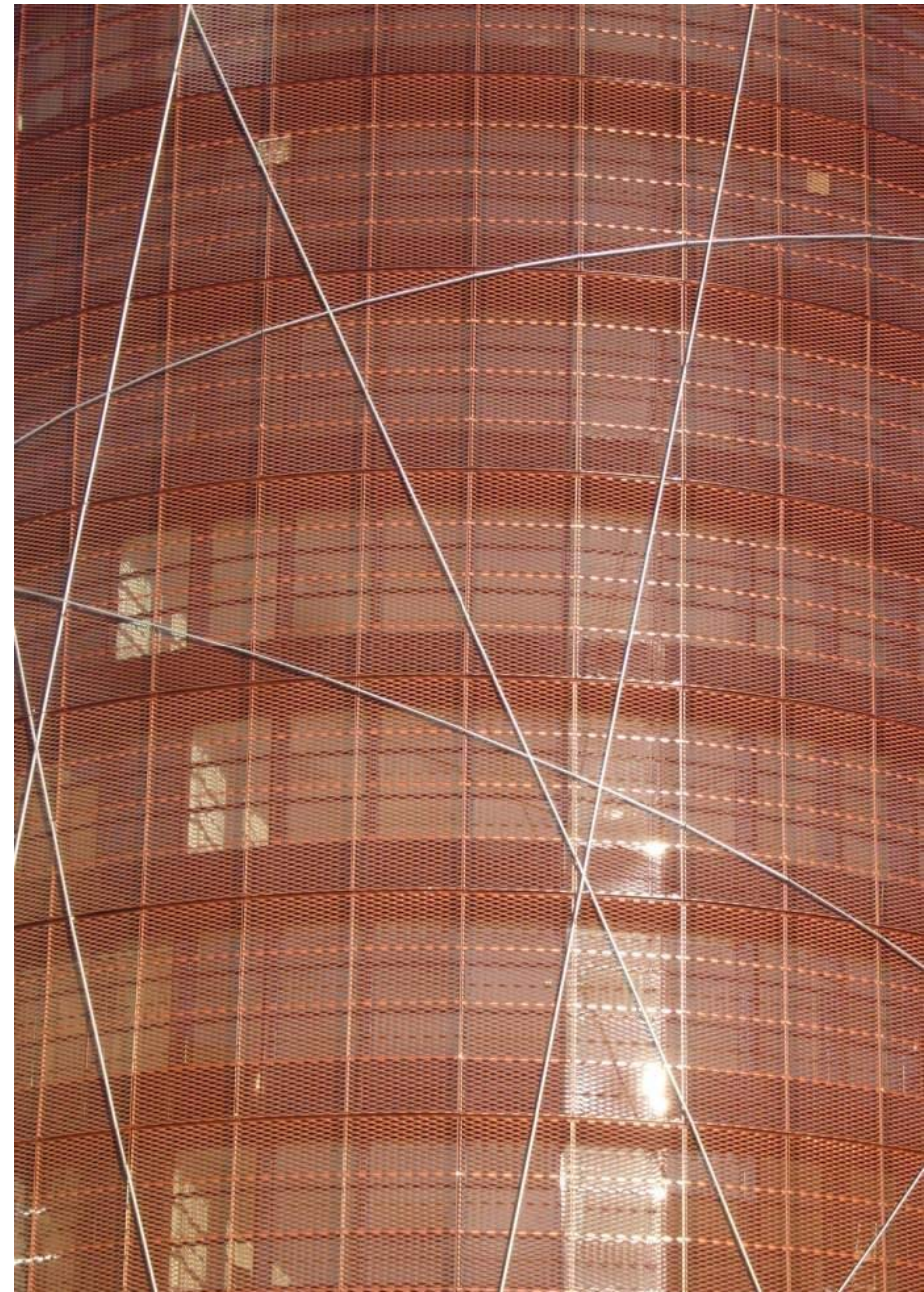






► Elithis Tower in Dijon, France • Arte Charpentier Architectes

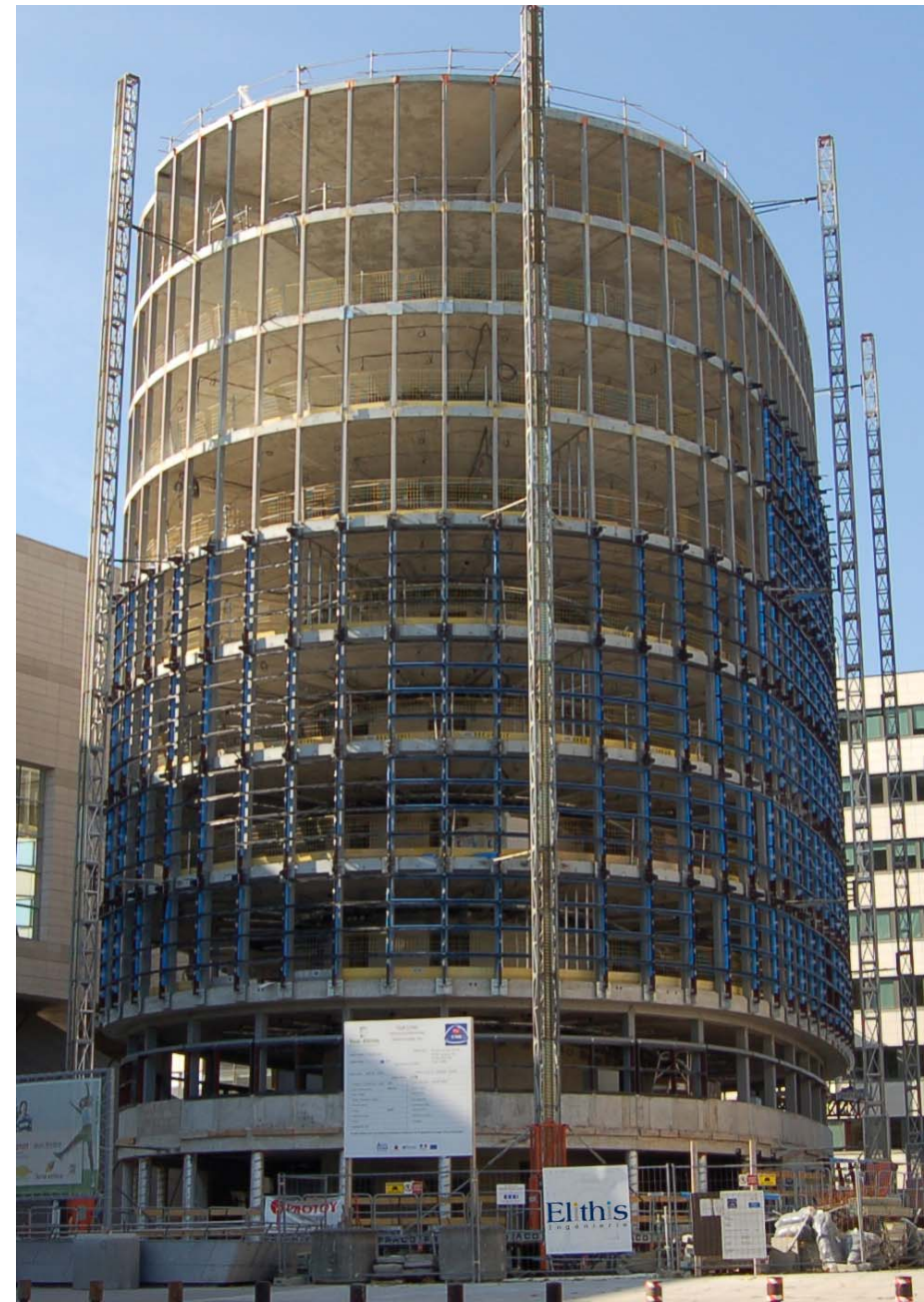
Net Positive Energy

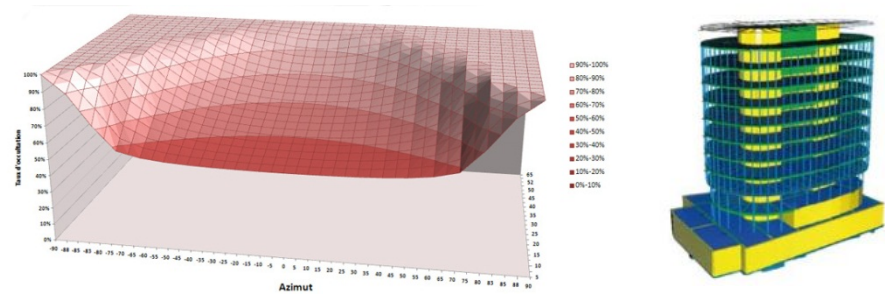
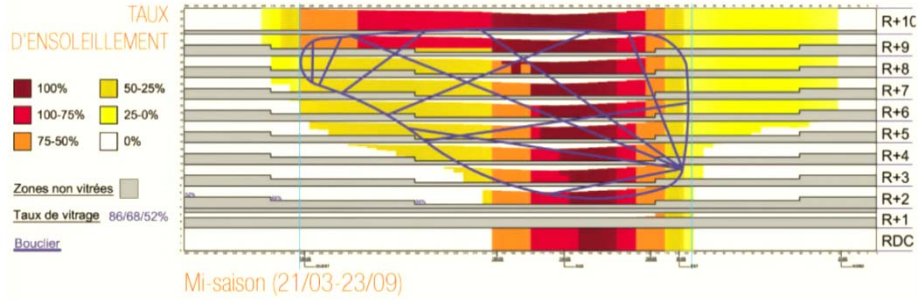
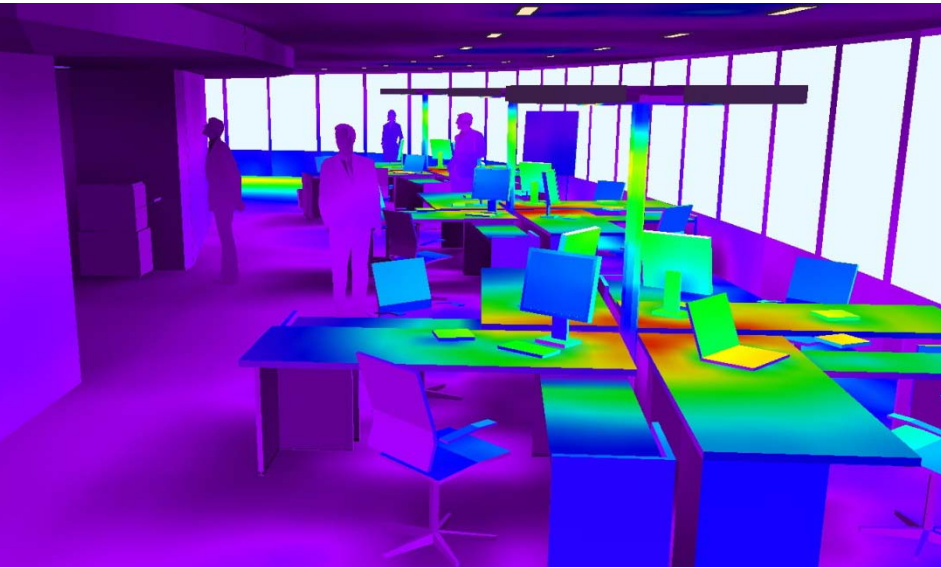




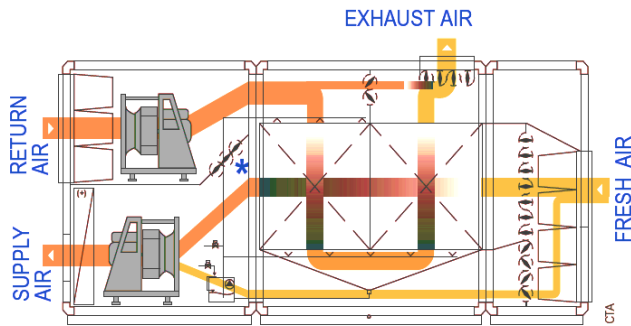
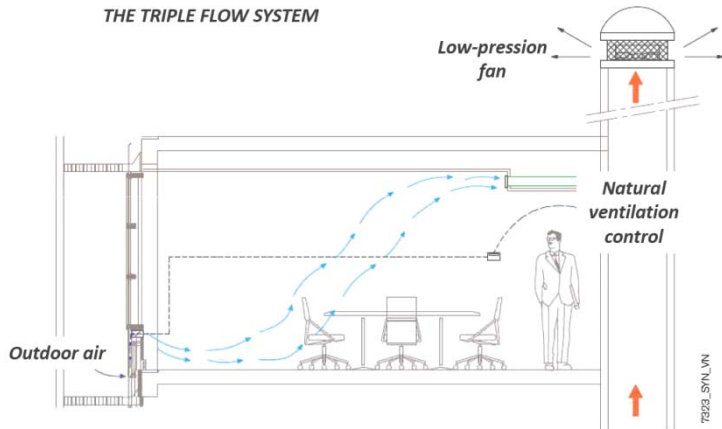


Window U-value	1.1 W/(m ² K)	Design outdoor temperature for heating	-11°C
Window g-value	0.4	Design outdoor temperature and RH for cooling	32°C / 38%
Exterior wall U-value	0.32 W/(m ² K)	Heating degree days (base temperature)	2 650 Degree days (base 18°C)
Base floor U-value	0.39 W/(m ² K)		
Roof U-value	0.22 W/(m ² K)		





THE TRIPLE FLOW SYSTEM



	Design phase			Measured 2009
	Net delivered energy use kWh/(m ² a)	Primary energy factor -	Primary energy use kWh/(m ² a)	Primary energy use kWh/(m ² a)
Space, water and ventilation heating, wood boiler	3.3	0,6	2.0	6.3
Cooling, electricity to heat pumps	4.1	2,58	10.6	6.2
Fans (HVAC)	5.1	2,58	13.1	14.1
Pumps (HVAC)	0.4	2,58	1.1	2.6
Lighting	4.1	2,58	10.5	9.5
Elevators	1.4	2,58	3.6	3.6
Appliances (plug loads)	9.4	2,58	24.2	54.6
PV power generation	-16.0	2,58	-41.3	-40.2
Total	12		24	57