Csa

Hot-summer mediterranean climate

Location Examples:

- Rome, Italy
- Antalya, Antalya Province, Turkey
- Los Angeles, Califonia, USA

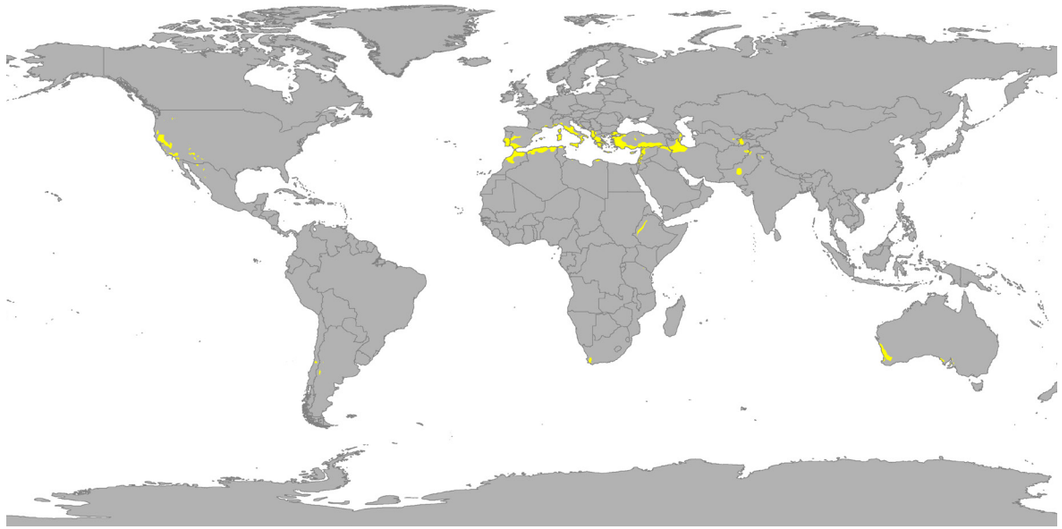
study
By Rui Guo

Hot-summer Mediterranean climate is the subtype of the Mediterranean climate. Csa climate experience over average temperatures 71.6°F (22°C) during the warm season and not averagely below 50°F (10°C) during the cold months. Csa climate mainly distributes around the Mediterranean Sea, southwestern of Australia, part of the western coast line of the US.

Building Materials commonly used in this climate are brick, concrete, stone, glass, wood. Csa climate has hot and dry summer and usually wet winter. Materials have high thermal quality, and mold resistant material are welcome. Some study is encouraging earth-based material from sustainable and culture standpoint.

Sources:
https://en.wikipedia.org/wiki/Mediterranean_climate#Hot-summer_mediterranean_climate

https://www.omicsonline.org/open-access/architecture-building-treatments-in-the-mediterranean-climate-from-anenvironmental-perspective-case-study-of-amman--jordan-2168-9717-1000151.php?aid=62140



Marseilles, France

Bosjes Chapel

case study
By Hua Yinghua

Wolseley, South Africa

Architect: Steyn Studio

Owner: N/A

Year of completion: 2016

Climate: Mediterranean climate

Material of interest: Concrete

Application: Roof

Properties of material: The chapel extremely complex roof structure with strongly curved shapes (length: 20 m, width: 12 m, height: 6 m) is concerned with shotcrete.

Sources:

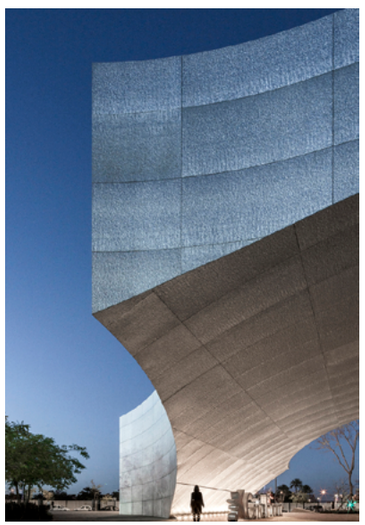
https://www.peri.com/en/projects/cultural-buildings/bosjes-chapel.html

https://www.archdaily.com/867369/bosjes-chapel-steyn-studio

Caixa Forum

case study
By Zhuoying Chen

Location: Seville, Spain



Architect: Vázquez Consuegra

Owner: Fundación Caixa D'Estalvis i Pensions Barcelona "La Caixa"

Year of completion: 2017

Climate: Csa (Mediterran Climate)

Material of interest: Stabilized Aluminum Foam

Application: Cladding

Properties of material:

- Modern and dramatic appearance, can also be powder coated in limitless colour choices
- 100% recyclable, and contains up to 100% + recycled content
- Acoustic Absorption Properties
- Non Combustible with a flame spread of zero
- Highly corrosion resistant
- The strength, durability, and resilience of aluminum

Sources:

https://www.archdaily.com/882996/caixaforum-sevilla-vazquez-consuegra
https://www.archdaily.com/catalog/us/products/11677/alusion-stabilized-aluminum-foam-in-caixa-forum-sevilla-cymat-technologies-ltd

Guarnón House

case study
By Shijing Zhu

Location: Granada, Spain

Architect: Fresneda & Zamora Arquitectura

Owner: N/A

Year of completion: 2017

Climate: Hot-summer Mediterranean climate

Material of interest: Concrete

Application: Exterior and interior

Properties of material: The courtyard acquires its contemporary nature thanks to the chosen materials, concrete and reed, which use light to sift their textures and materiality. Concrete, in contrast to wood and reed. The combination of artificial versus natural and which character is reinforced when the light emanates from the skylights, a moment in which games of grammages and textures appear, of shadow lines.

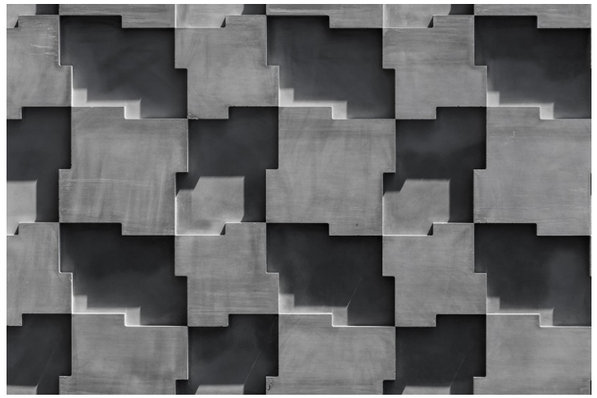
Sources:

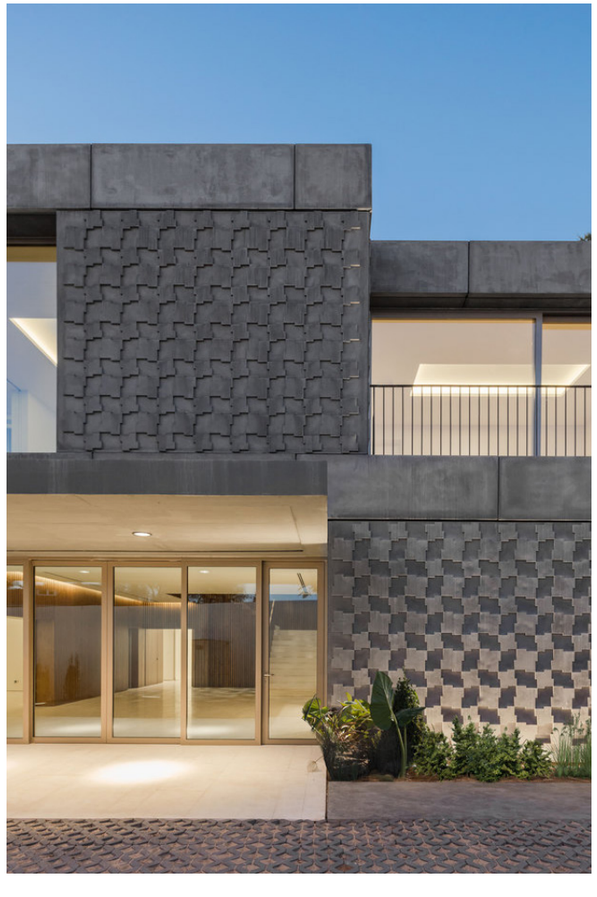
https://www.archdaily.com/902027/guarnon-house-fresneda-and-zamora-arquitectura

Embassy of Egypt

case study
By Sarah Fahey

Location: Lisbon, Portugal





Architect: Promontorio

Owner: Egyptian Building Fund Authority

Year of completion: 2017

Climate: Hot-summer Mediterranean

Material of interest: Concrete

Application: Exterior
3 precast monolithic concrete panels are layered together and stamped with bas-relief patterns which subtilely reference ancient Egyptian geometric motifs. The concrete mixture contains ad deep anthracite pigment that gives the facade it's color and emphasizes the monumentality and weight of the building.

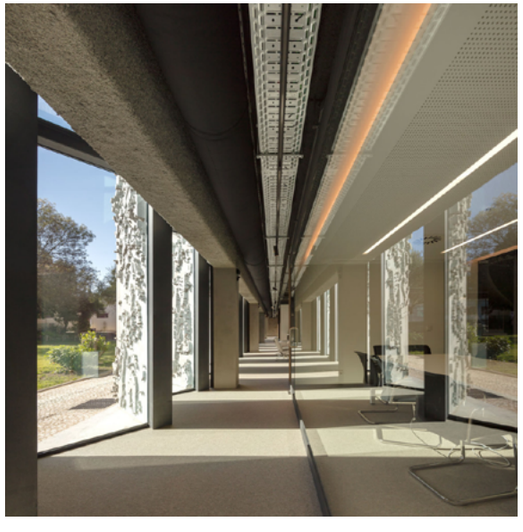
Properties of material: low maintenance, versatility, allows for customized designs, affordable, provides a thermal mass, structural, durable, strong

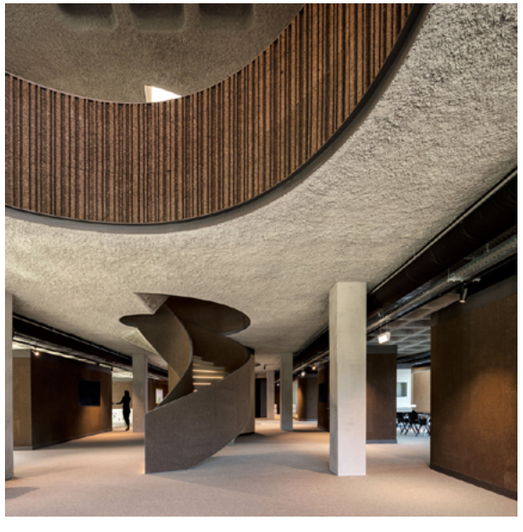
Sources:
https://www.architectmagazine.com/project-gallery/embassy-of-egypt_o
https://www.archdaily.com/891346/embassy-of-egypt-promontorio

GS1 Portugal

case study
By Zhuoying Chen

Location: Lisbon, Portugal





Architect: Promontório

Owner: GS1 Portugal

Year of completion: 2016

Climate: Csa (Mediterran Climate)

Material of interest: Concrete

Application: Facade, interior wall

Properties of material:

- large scale, heavy and expensive
- precast moulding, can be designed to have bas-relief and patterns
- durable, well-suited for all types of weather conditions
- clean and elegant

Sources:

https://www.archdaily.com/871361/gs1-portugal-promontorio

Barcelona Airport Parking Garage

case study
By Ruizhu Han

Location: Barcelona, Spain

Architect: Perez Pita

Owner: N/A

Year of completion: 2004

Climate: Mediterran Climate

Material of interest: metal fabric

Application: Exterior

Properties of material: The energy-efficient metal fabric provides safety from the elements and added security, while allowing for energy-efficient natural airflow and ventilation to occur.

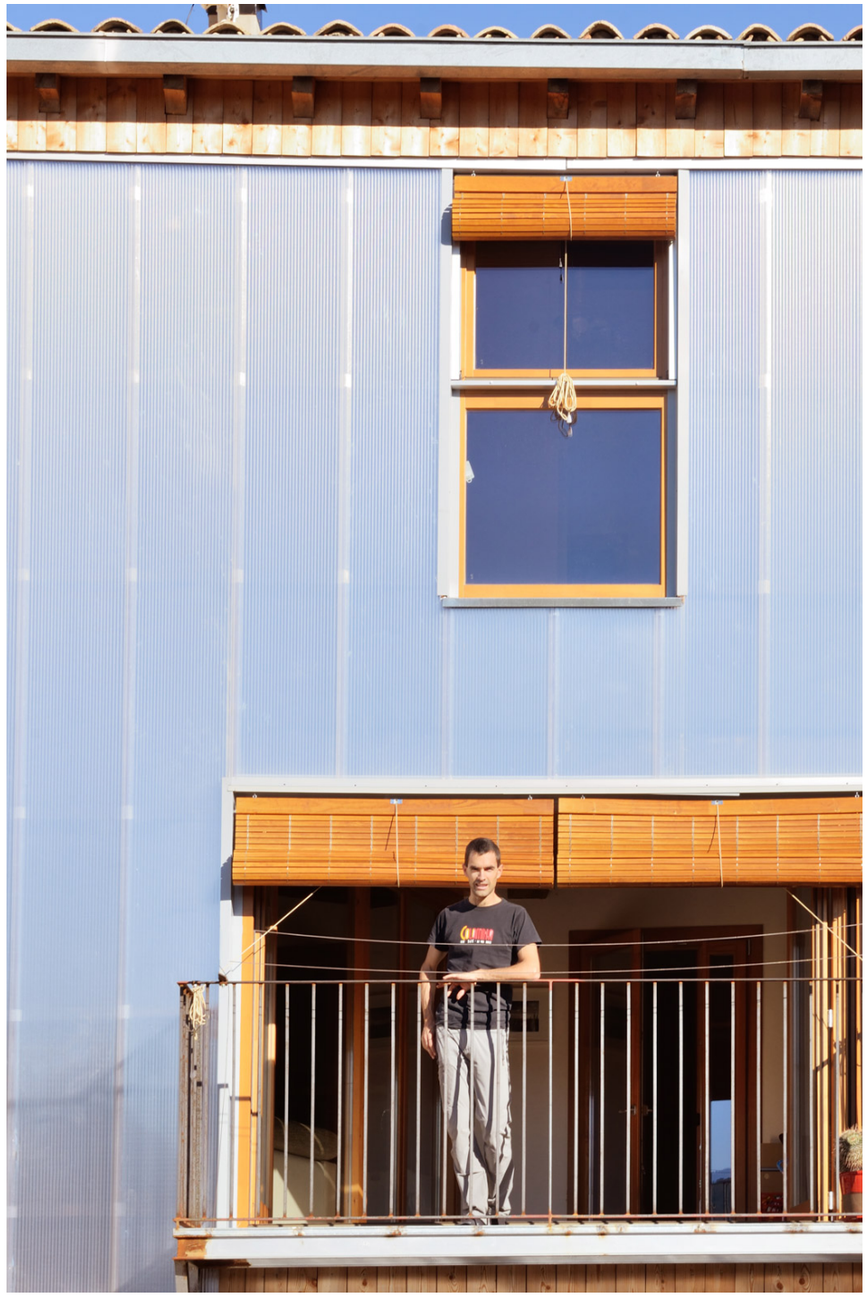
Sources:

http://www.gkdmetalfabrics.com/projects/barcelona_airport_parking_garage.html

Old Spanish House Renovation

case study
By Ruizhu Han

Pessonada, Spain



Architect: Bunyesc Arquitectes

Owner: N/A

Year of completion: 2017

Climate: Mediterran Climate

Material of interest: polycarbonate plastic

Application: Exterior

Properties of material: The team installed eight-layer polycarbonate panels to the outside of the building's south-facing stone wall. The aim was to significantly increase the level of insulation and also allow the building to passively store energy from the sun.

Sources:

https://www.dezeen.com/2017/01/14/bunyesc-arquitectes-updates-old-spanish-house-with-new-polycarbonate-facade-architecture-residential/

Small Hotel in OIA Castle

case study
By Hua Yinghua

Location: Oia, Greece

Architect: Kapsimalis Architects

Owner: Oia Castle Luxury Boutique Hotel

Year of completion: 2018

Climate: Mediterran Climate

Material of interest: Volcanic stone(local)

Application: Key foundational pillars and walls and retaining walls

Properties of material: Volcanic rocks are usually fine-grained or aphanitic to glass in texture and have higher compressive strength.

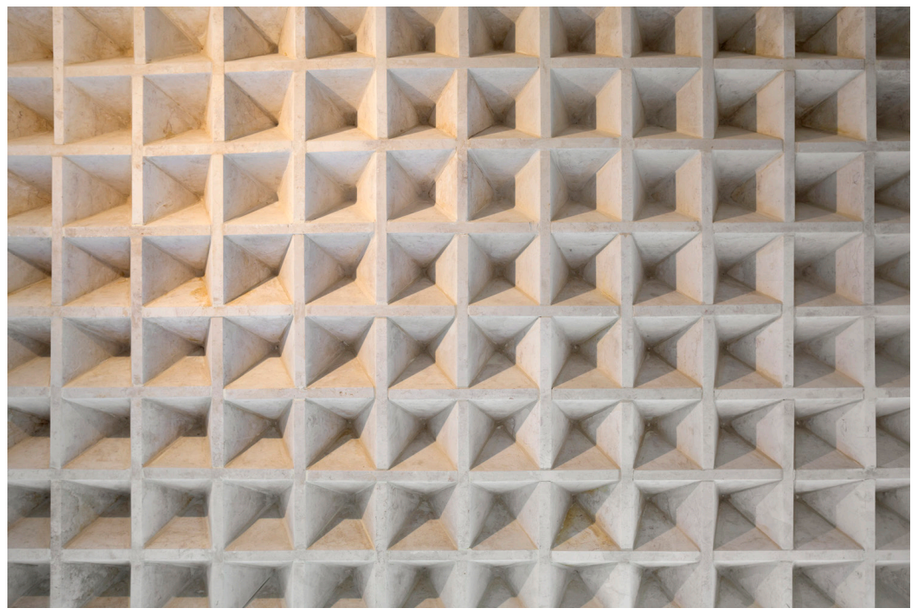
Sources:

https://www.archdaily.com/901888/small-hotel-in-oia-castle-kapsimalis-architects
http://www.luxuo.com/properties/hotel/oia-castle-luxury-boutique-hotel-santorinis-most-romantic-hotel.html

The Flat Vault

case study
By Yu Yan

Location: Jerusalem, Palestine



Architect: AAU ANASTAS

Owner: N/A

Year of completion: 2018

Climate: Csa

Material of interest: Stone

Application: Roof and Columns

Properties of material: The columns of the new shop are made out of massive stone, and the ceiling is a at stone vault composed of 169 interlocking voussoirs.

Sources:

Archdaily: https://www.archdaily.com/903127/the-flat-vault-aau-anastas

Museum of Natural History in Tel Aviv

case study
By Ruizhu Han

Tel Aviv, Israel

Architect: Kimmel Eshkolot Architects

Owner: N/A

Year of completion: 2018

Climate: Mediterran Climate

Material of interest: wood

Application: Exterior

Properties of material: The exhibition spaces are contained within this angular volume. It is clad in panels of engineered timber that help to insulate the collections and maintain the consistent climate they require.
The exposed grain of the outer veneer layer introduces a natural surface that softens the otherwise geometric and futuristic form.

Sources:

https://www.dezeen.com/2018/07/15/steinhardt-museum-natural-history-kimmel-eshkolot-architects-tel-aviv-wooden-treasure-chest/