

YAPI ELEMANLARI 1

Doç. Dr. Sevgül LİMONCU
2019

AHŞAP DUVARLAR

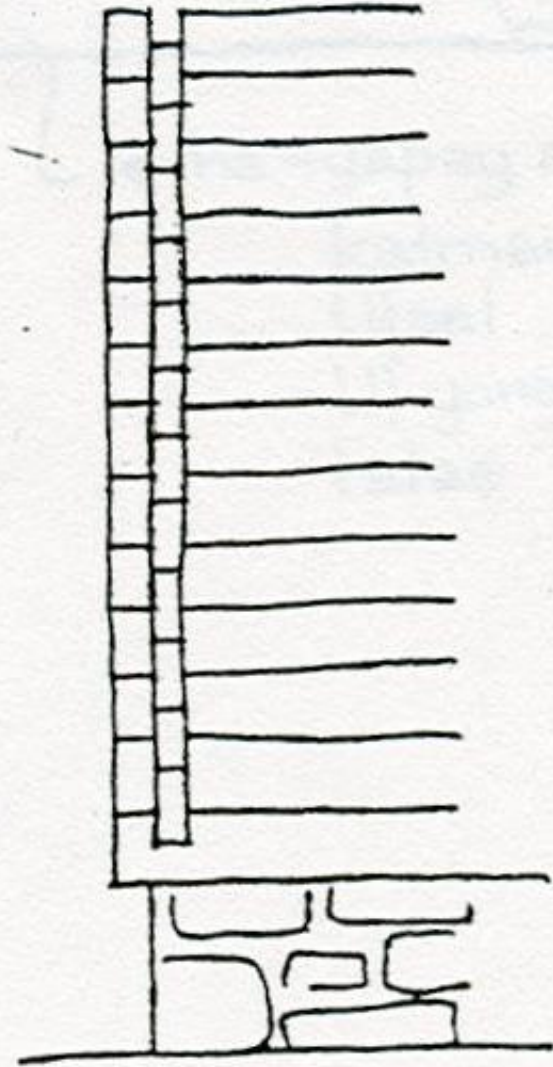
Ahşap duvarlar;

- Yığma
- İskelet

AHŞAP YIĞMA DUVARLAR



Tomruk
(kabuksuz)

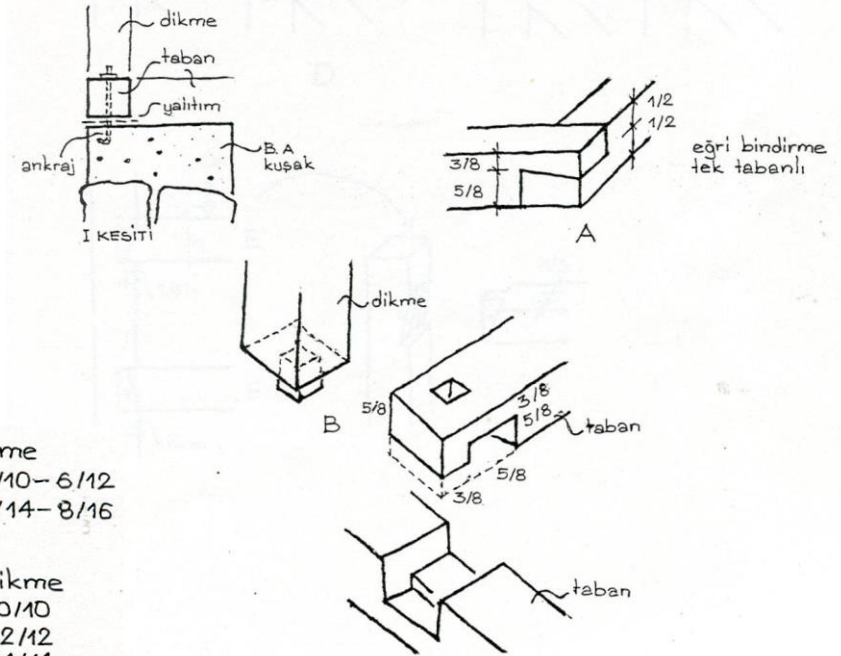
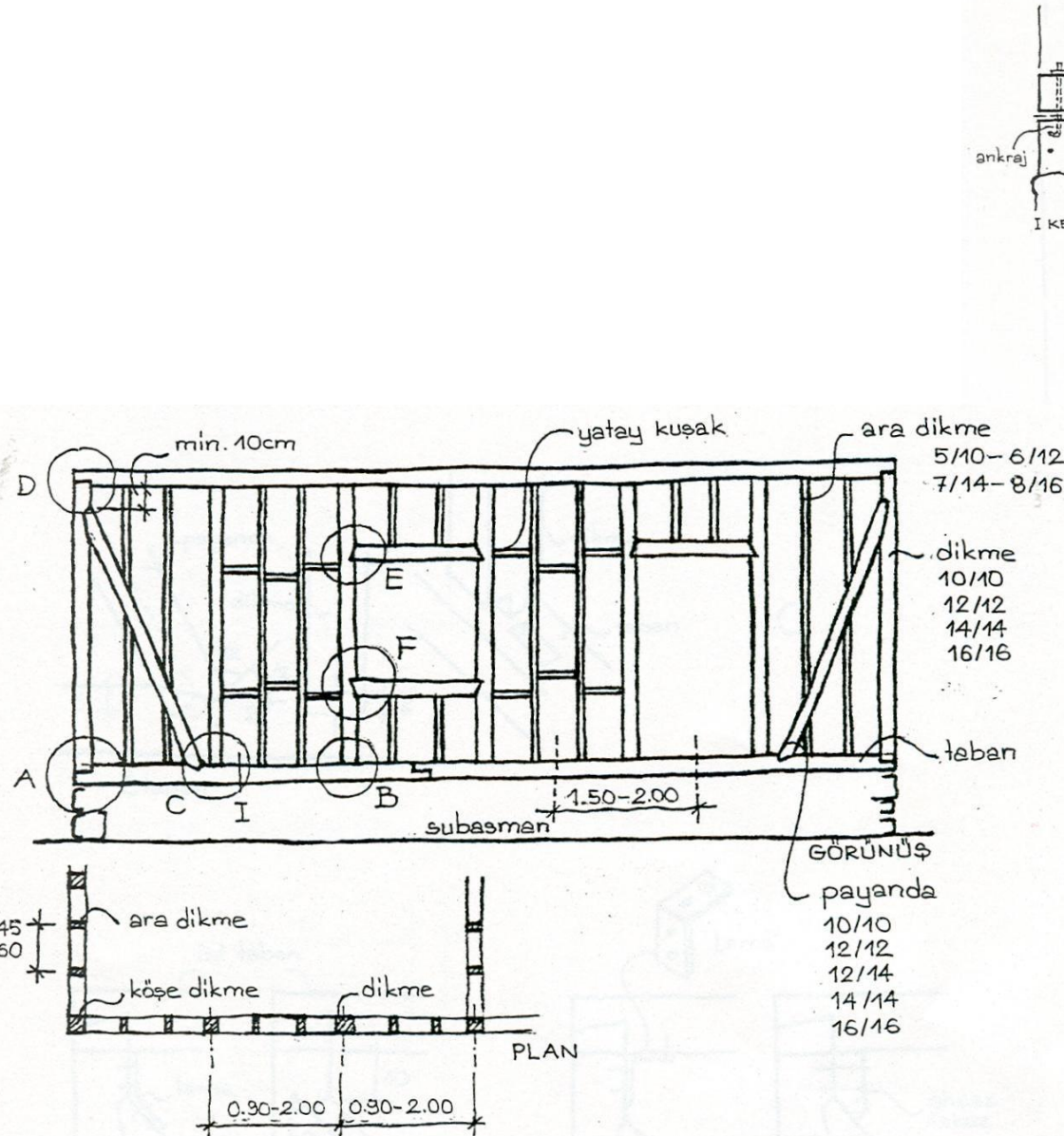


köşe

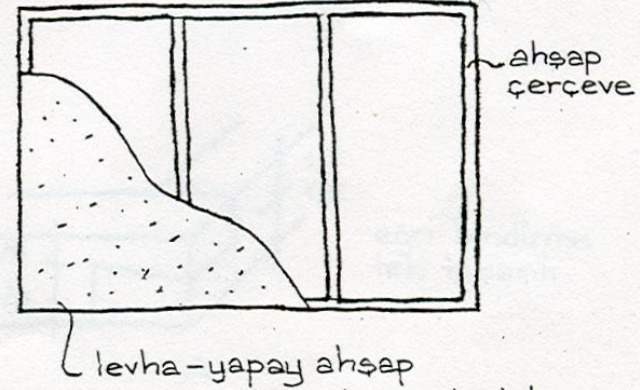
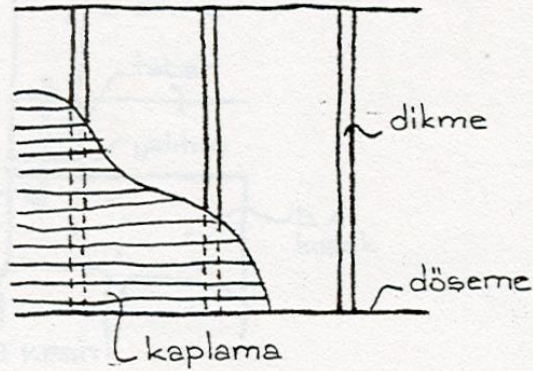
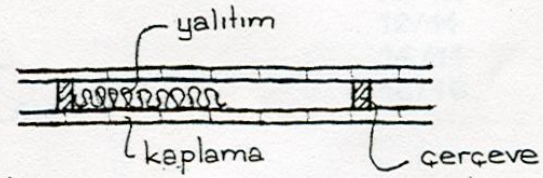
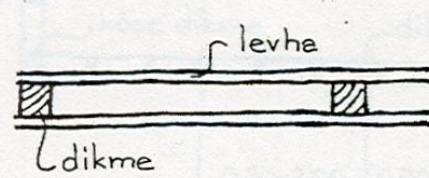


kalas

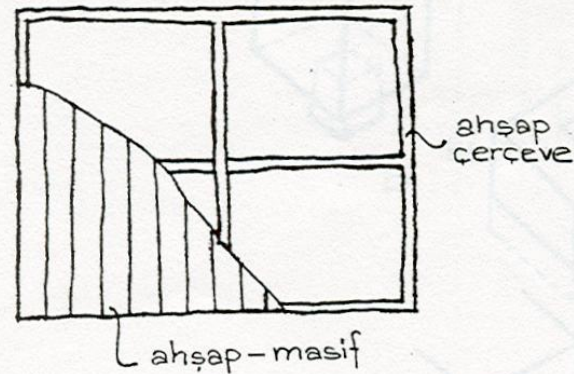
AHŞAP İSKELET YAPI



AHŞAP İSKELET DUVARLAR



katmanlı - kontrplak
Lifsel - duralit
Lif yonga - sunta
talaş - heraklit

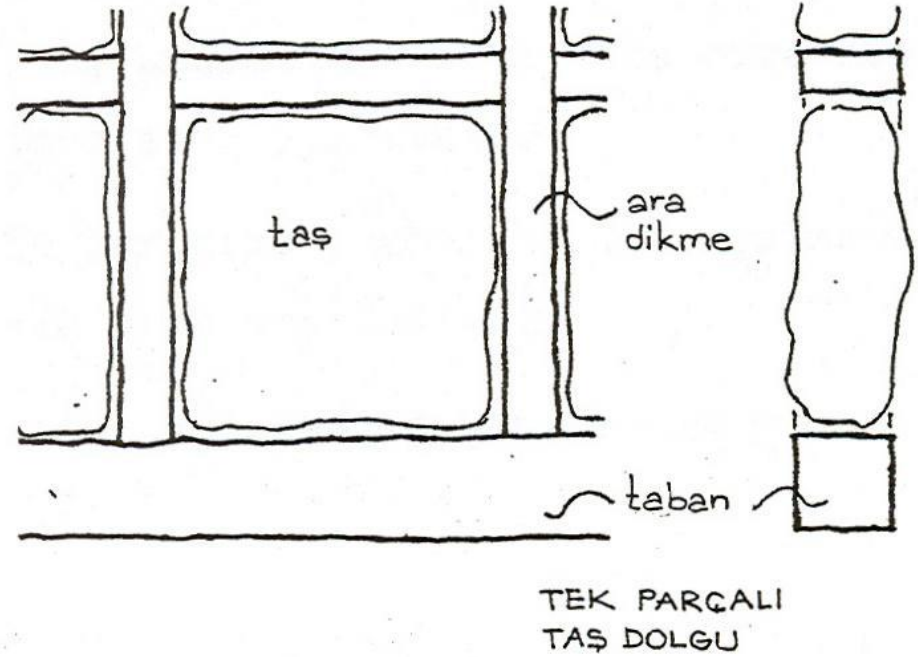
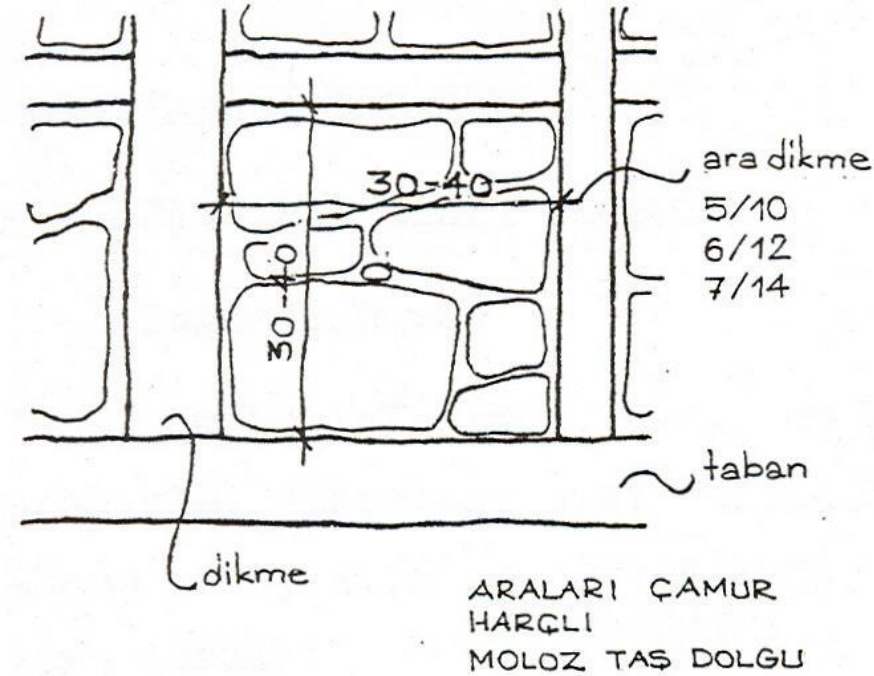


AHŞAP İSKELET DUVARLAR

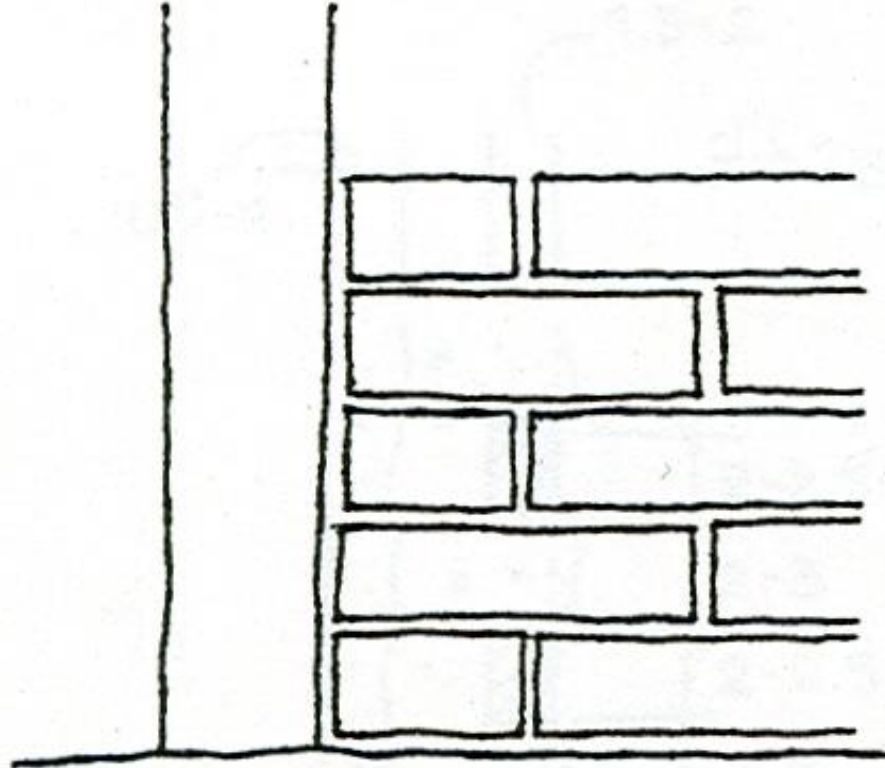
- Dolgu duvarlar;
 - Kerpiç,
 - Taş,
 - Tuğla,
- Kaplamalı duvarlar;
 - Sıva kaplamalı;
 - Bağdadi duvar,
 - Metal üzerine sıva,
 - Levhalar üzerine sıva,
 - Ahşap kaplamalı;
 - Yatay kaplamalı,
 - Düşey kaplamalı

yapılabilir. Duvarın iskeleti ise ahşap yerine metalden de üretilebilir

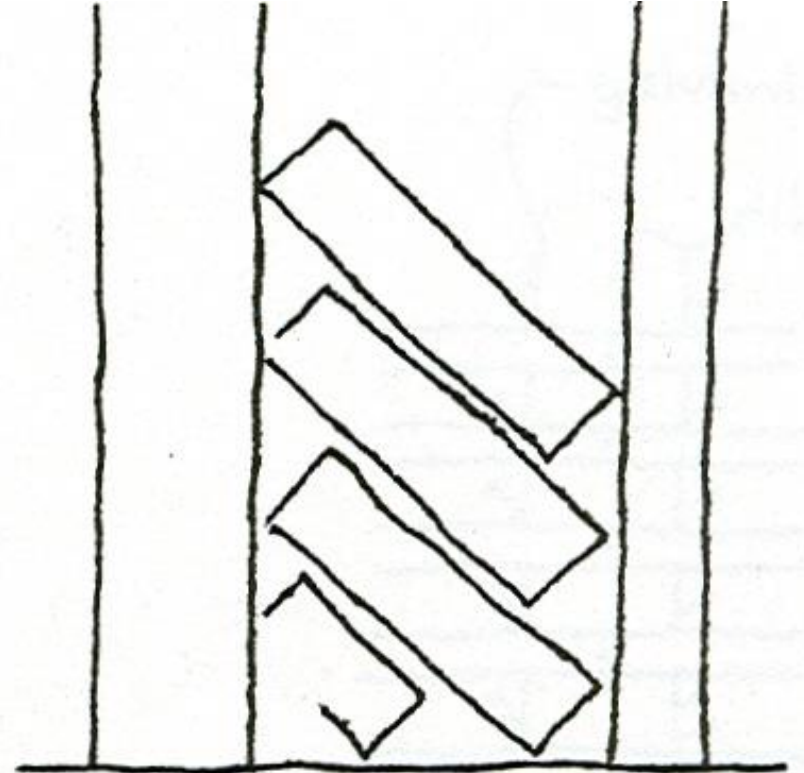
AHŞAP İSKELET DUVARLARDA TAŞ DOLGU



AHŞAP İSKELET DUVARLARDA TUĞLA DOLGU

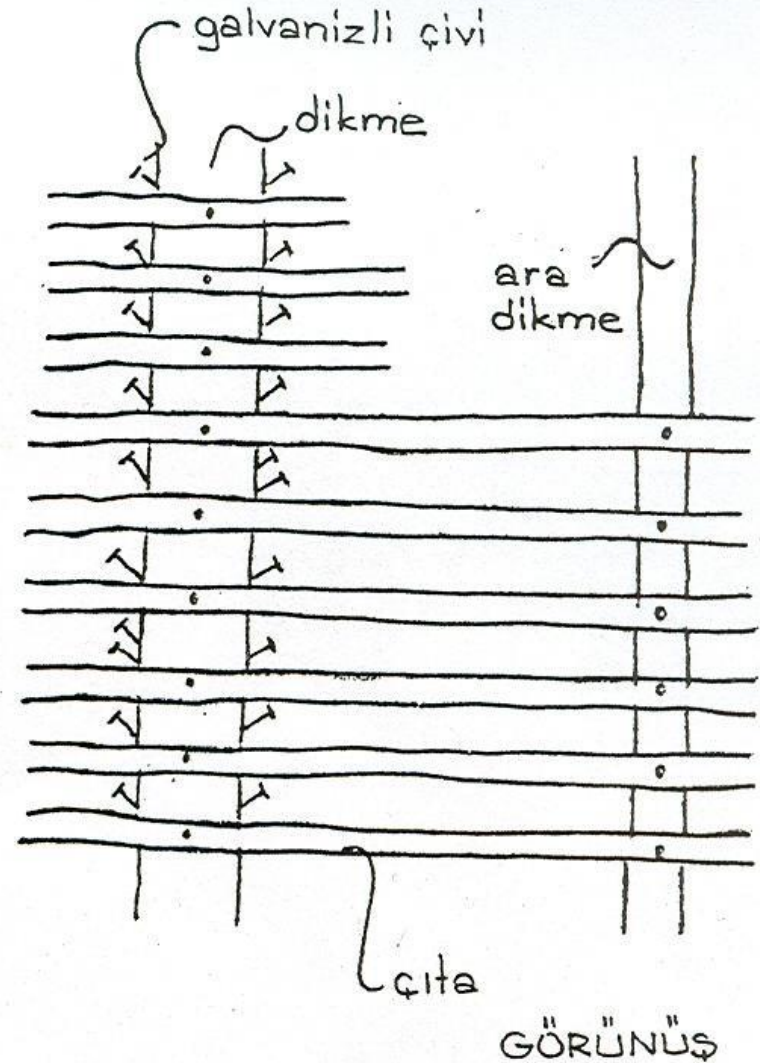
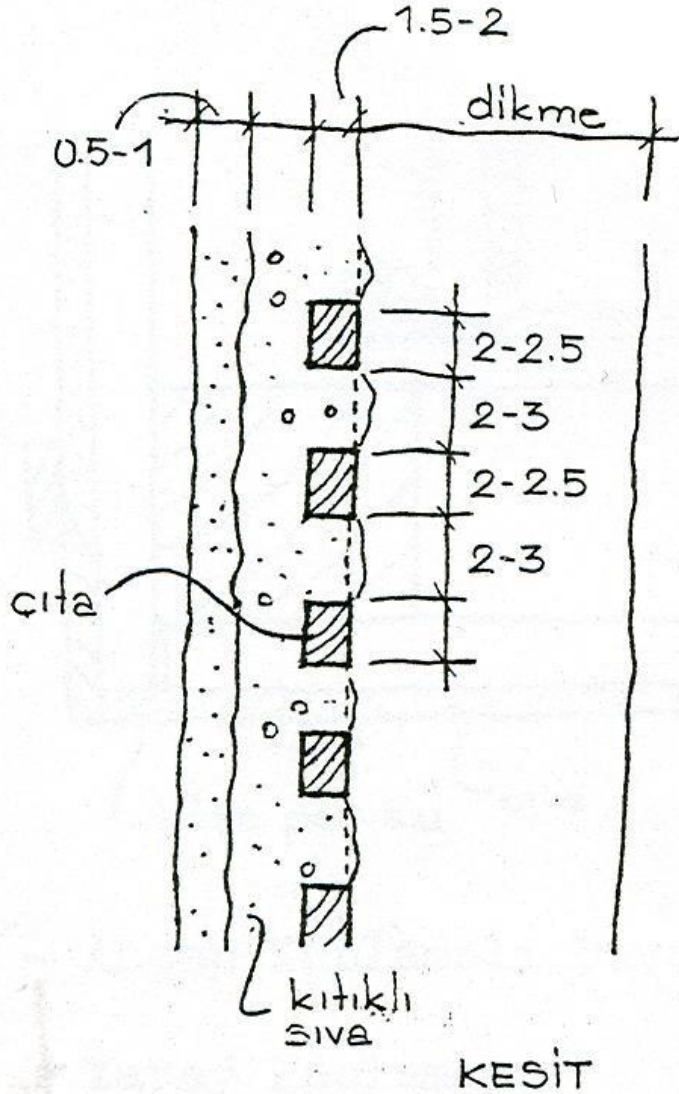


DÜZ ÖRGÜ

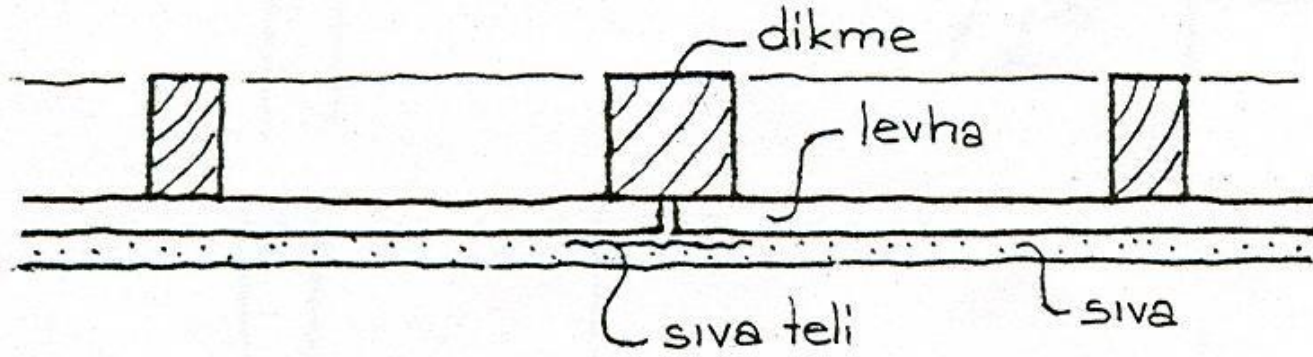


ÇAPRAZ ÖRGÜ

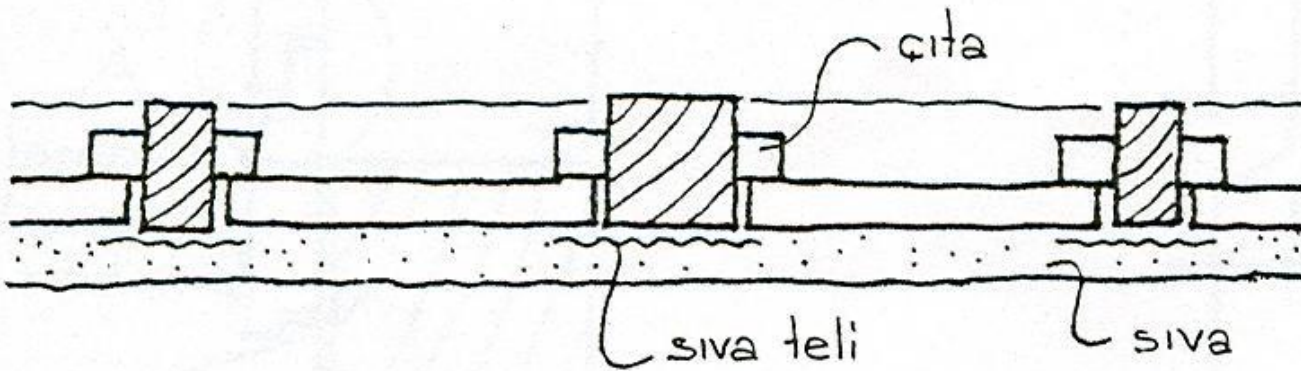
AHŞAP İSKELET DUVARLARDA SIVA KAPLAMALAR



AHŞAP İSKELET DUVARLARDA SIVA KAPLAMALAR

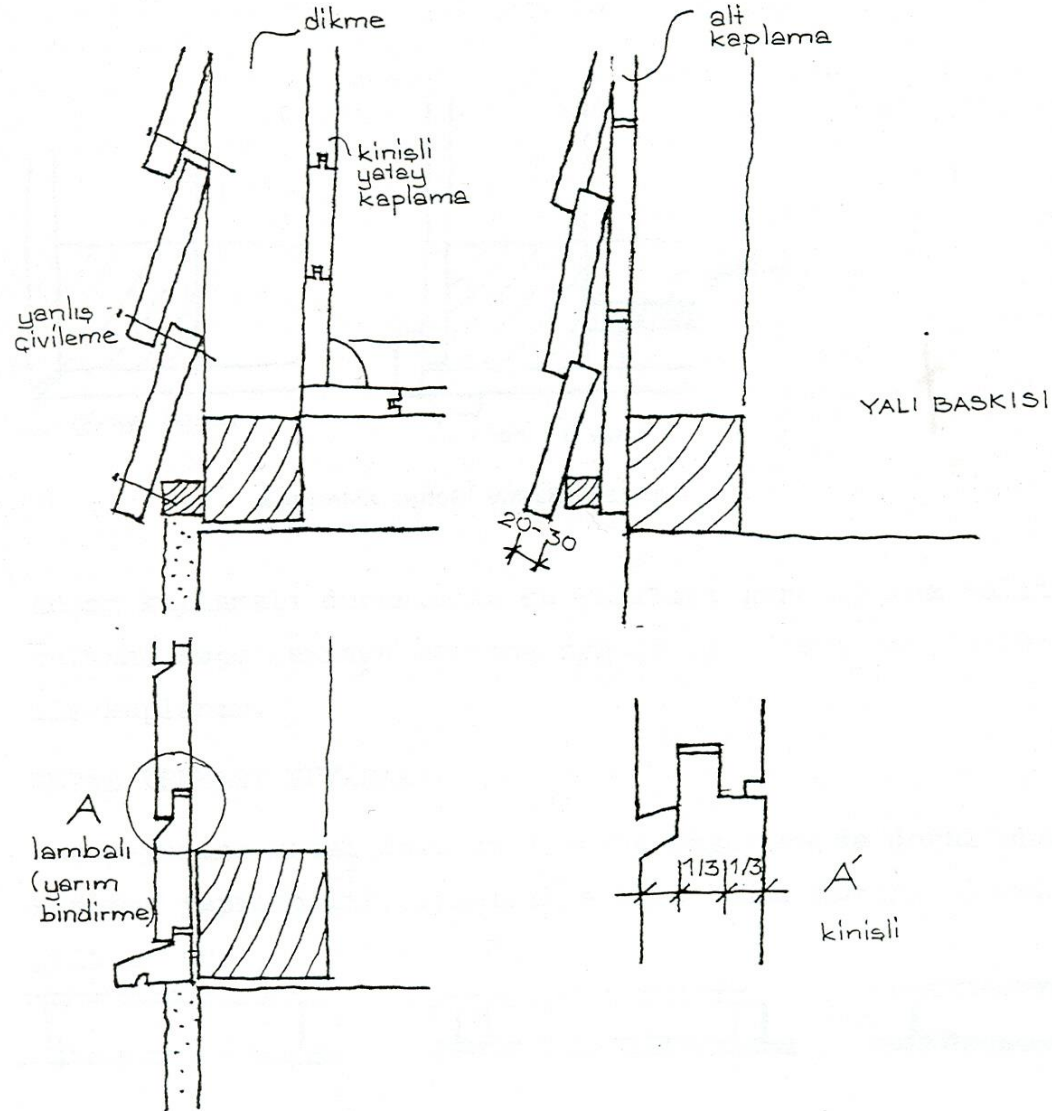


LEVHA
DİKME ÜZERİNDE

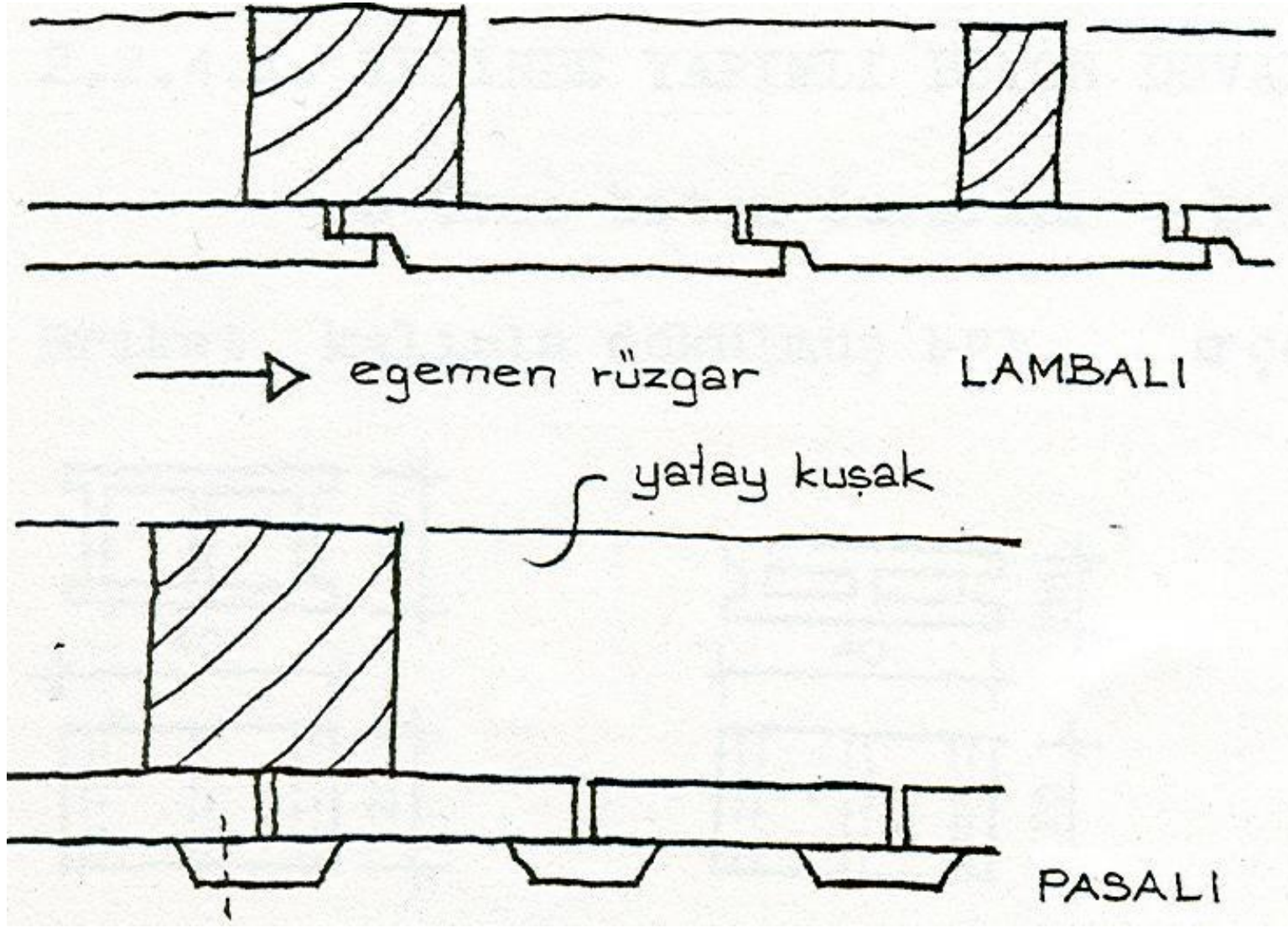


LEVHA
DİKME ARASINDA

AHŞAP İSKELET DUVARLARDA YATAY AHŞAP KAPLAMALAR



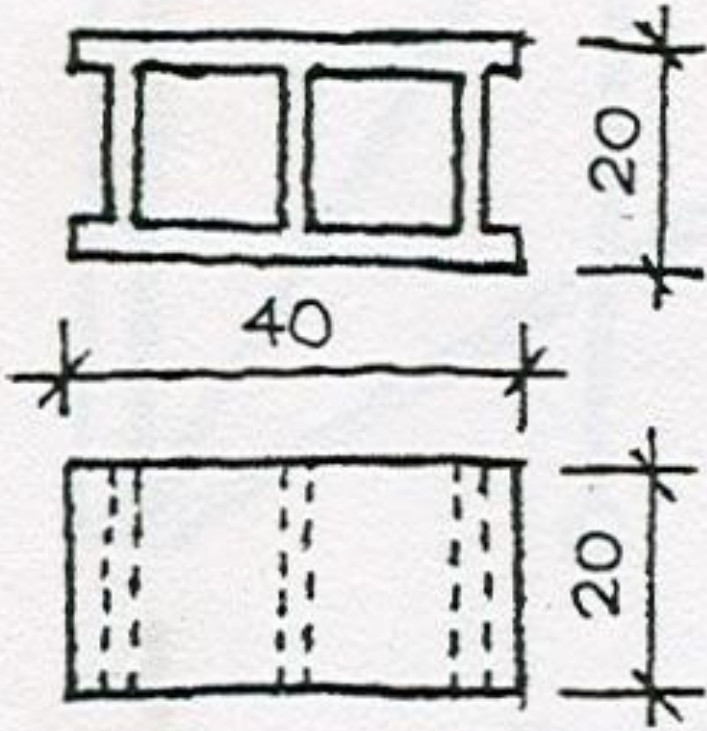
AHŞAP İSKELET DUVARLARDA DÜŞEY AHŞAP KAPLAMALAR



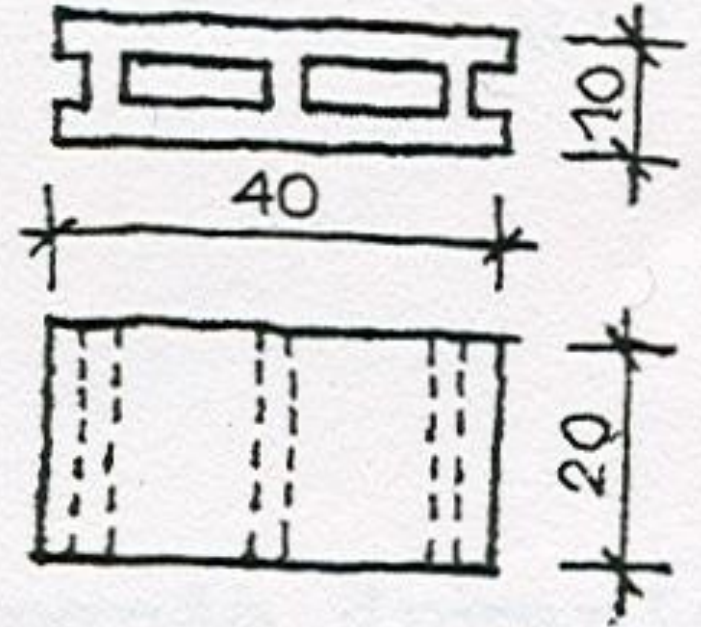
BETON DUVARLAR

- Yerinde yapımlı beton duvarlar
 - Örme beton duvarlar-briket
 - Dökme beton duvarlar
 - Betonarme duvarlar
 - Betonarme perde duvarlar
- Ön yapımlı beton duvarlar

ÖRME BETON DUVARLAR

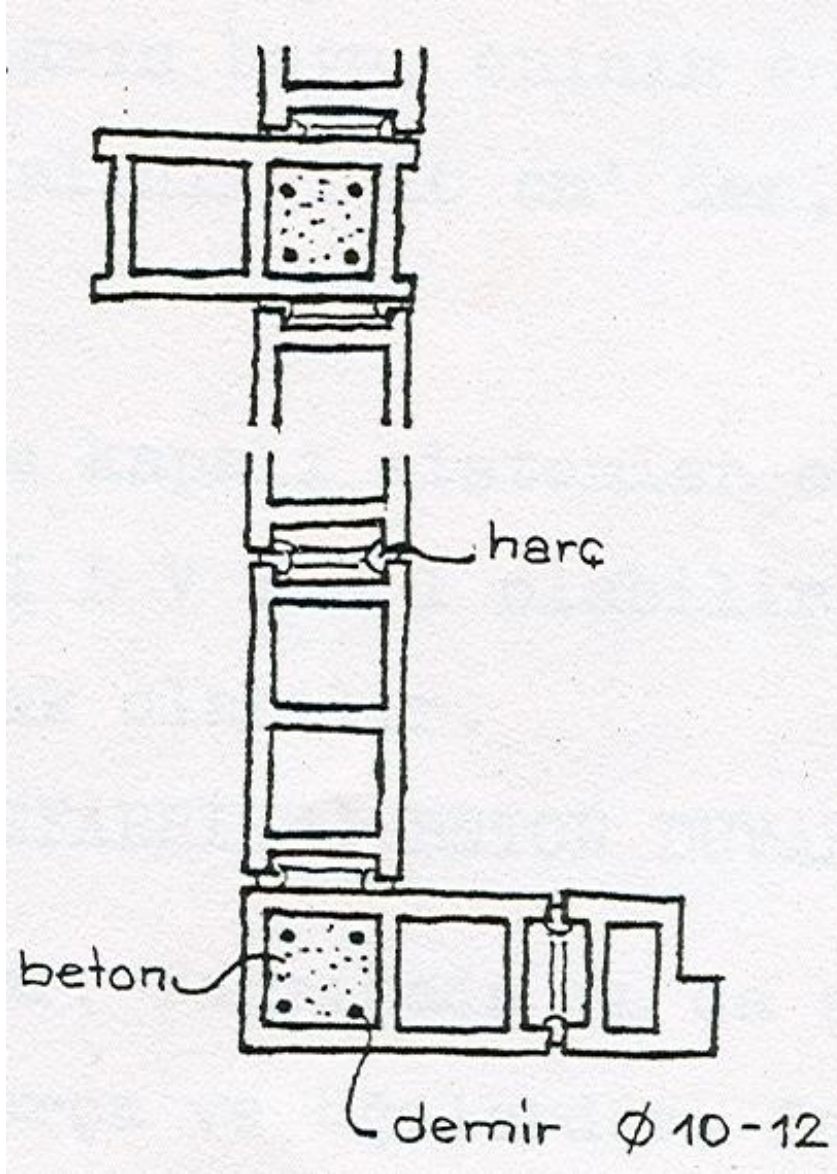


tam briket

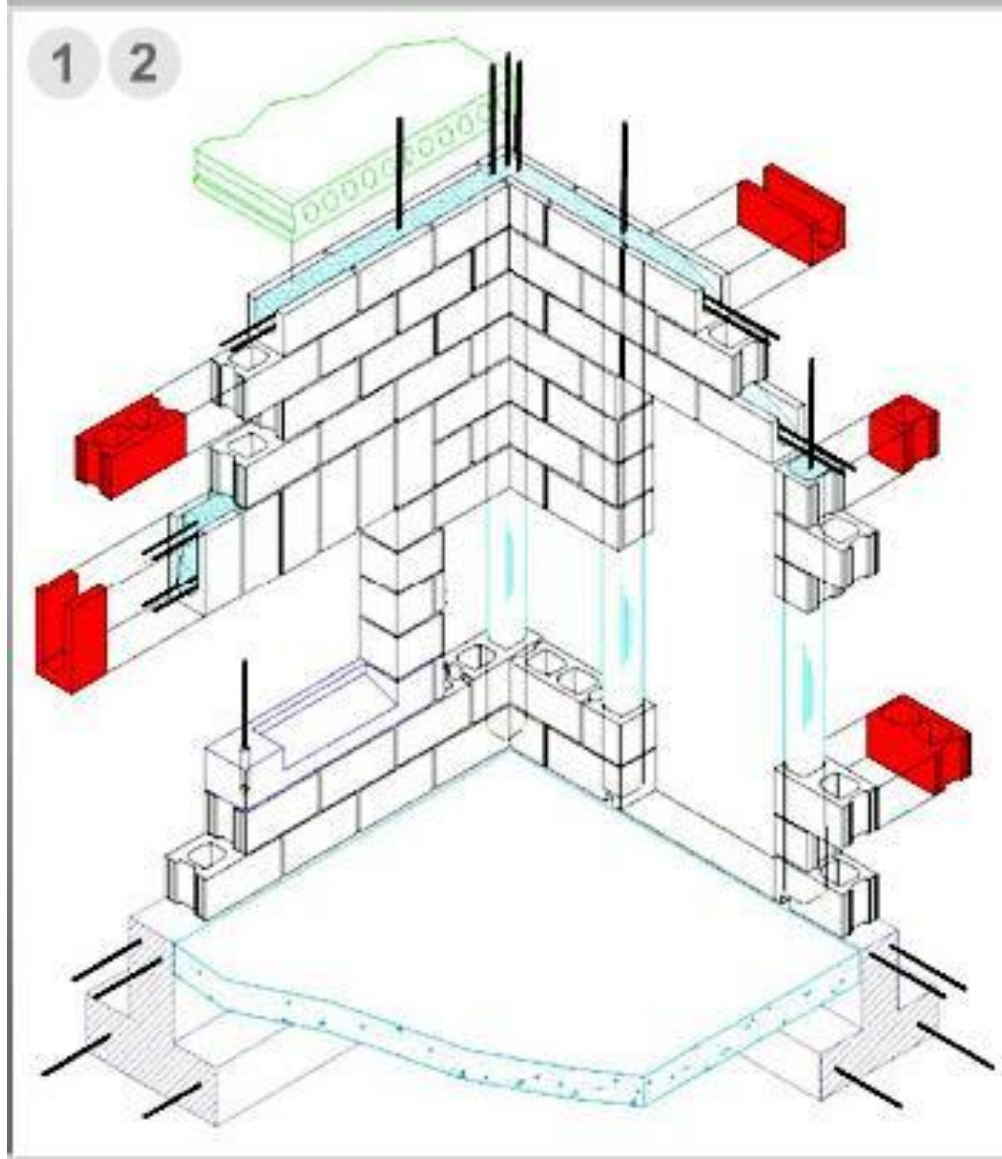


yarım briket

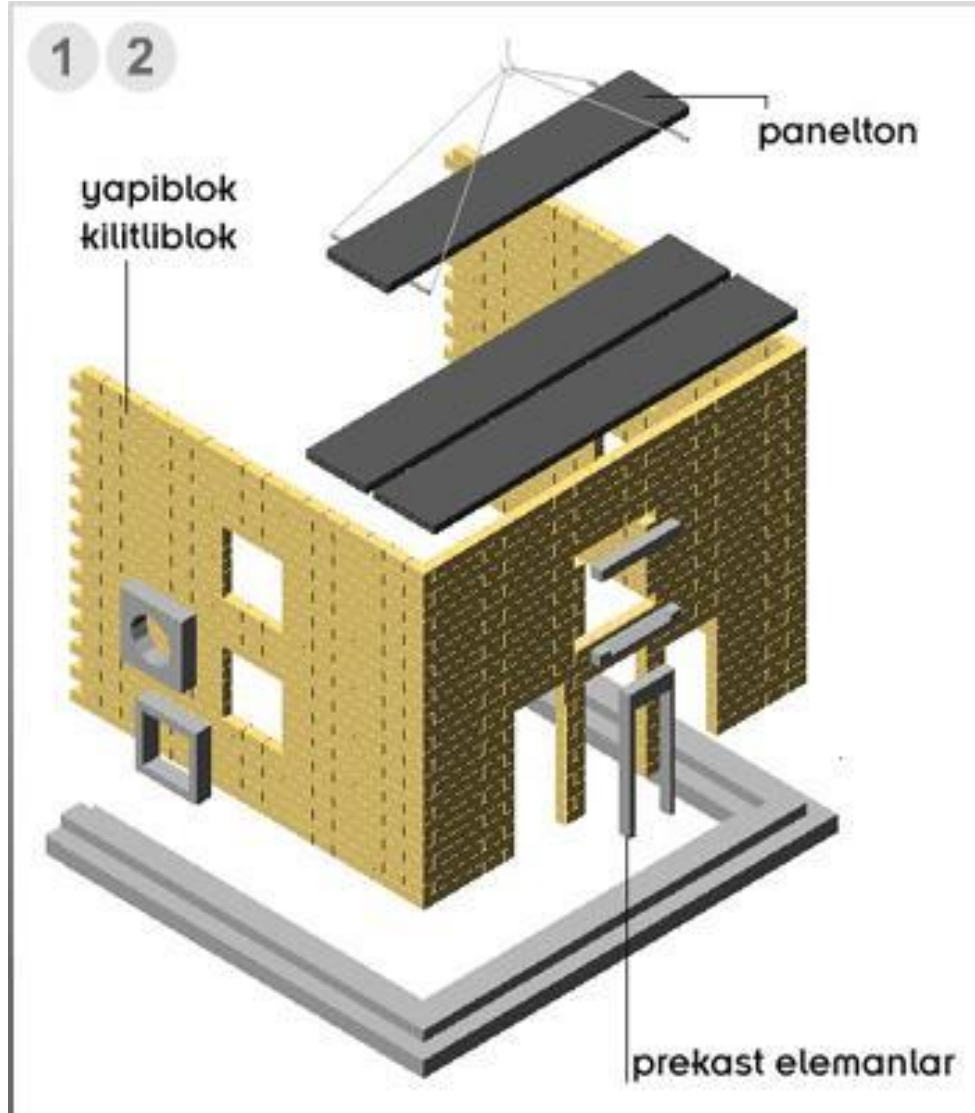
ÖRME BETON DUVARLAR



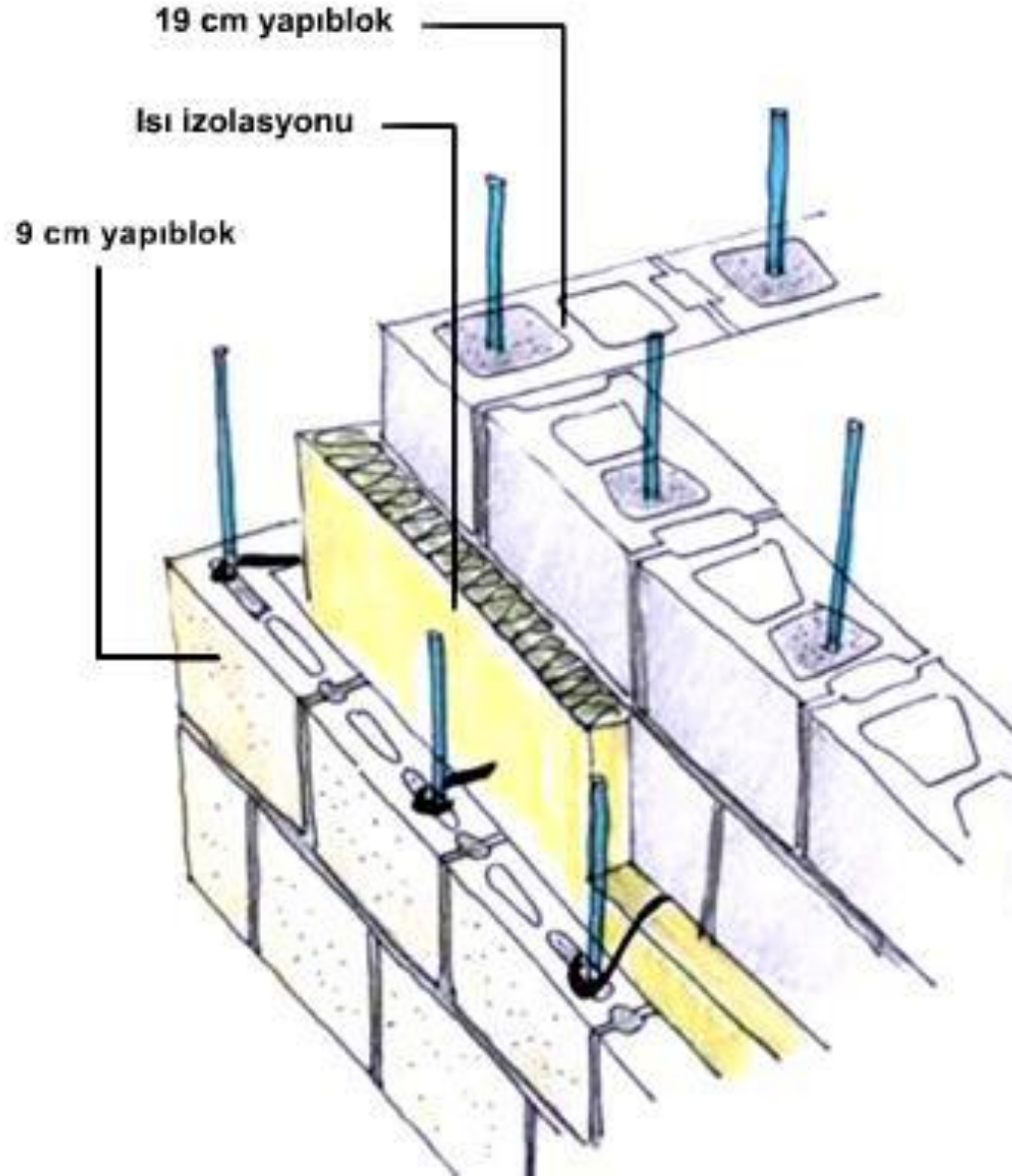
ÖRME BETON DUVARLAR



ÖRME BETON DUVARLAR

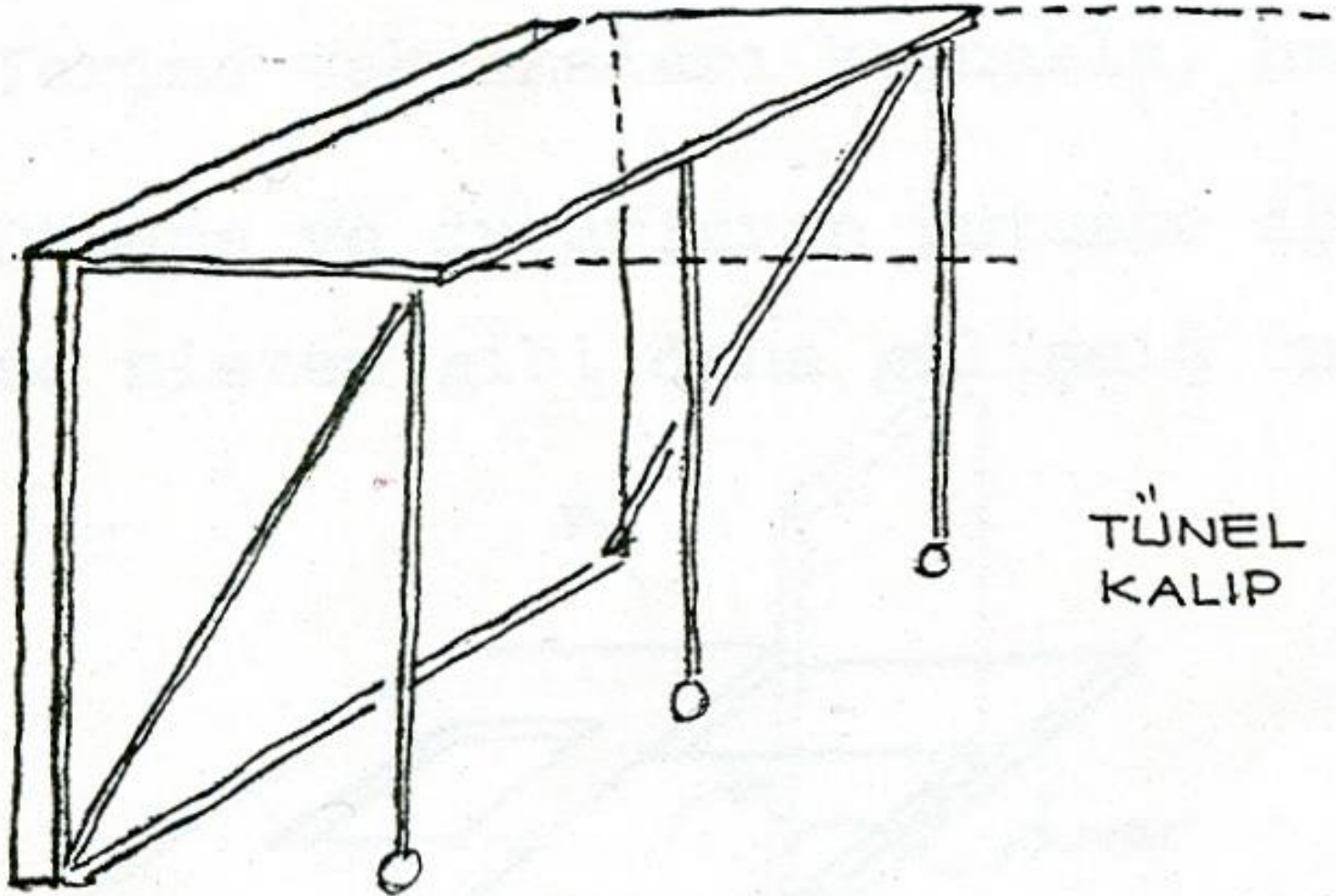


ÖRME BETON DUVARLAR



DÖKME BETON DUVARLAR

Betonarme Duvarlar

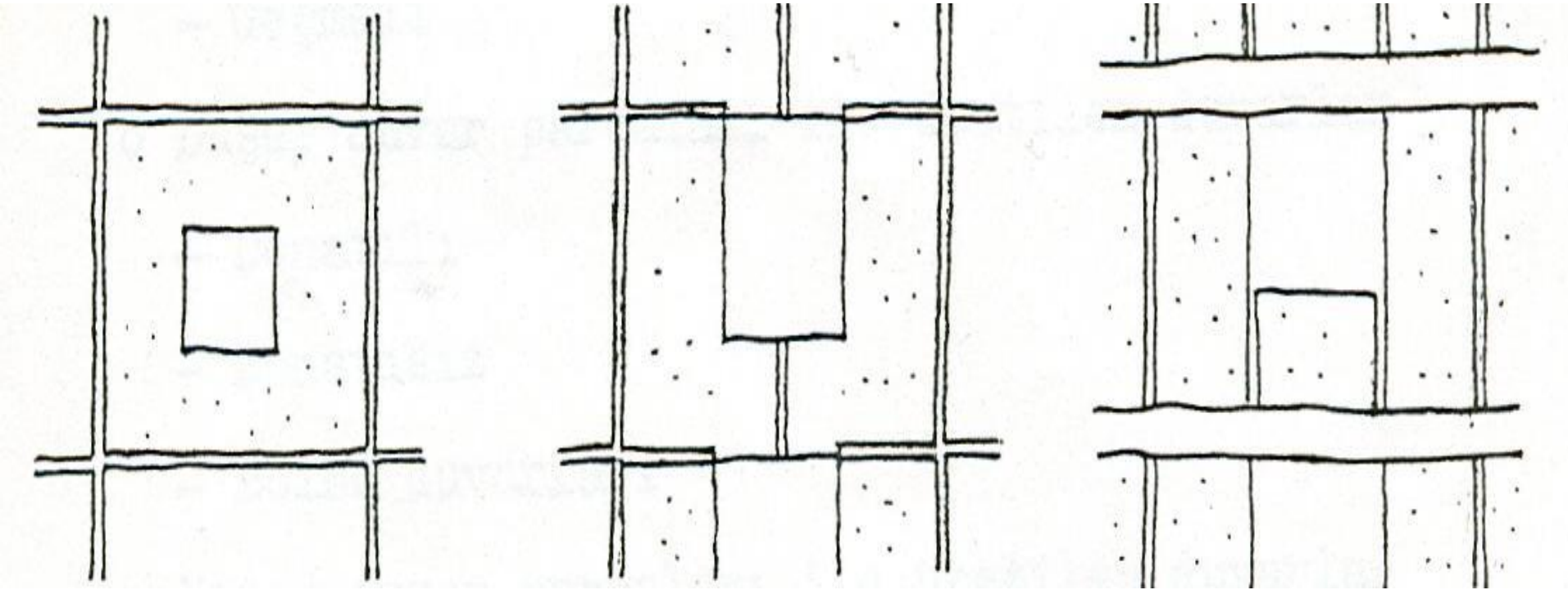


DÖKME BETON DUVARLAR

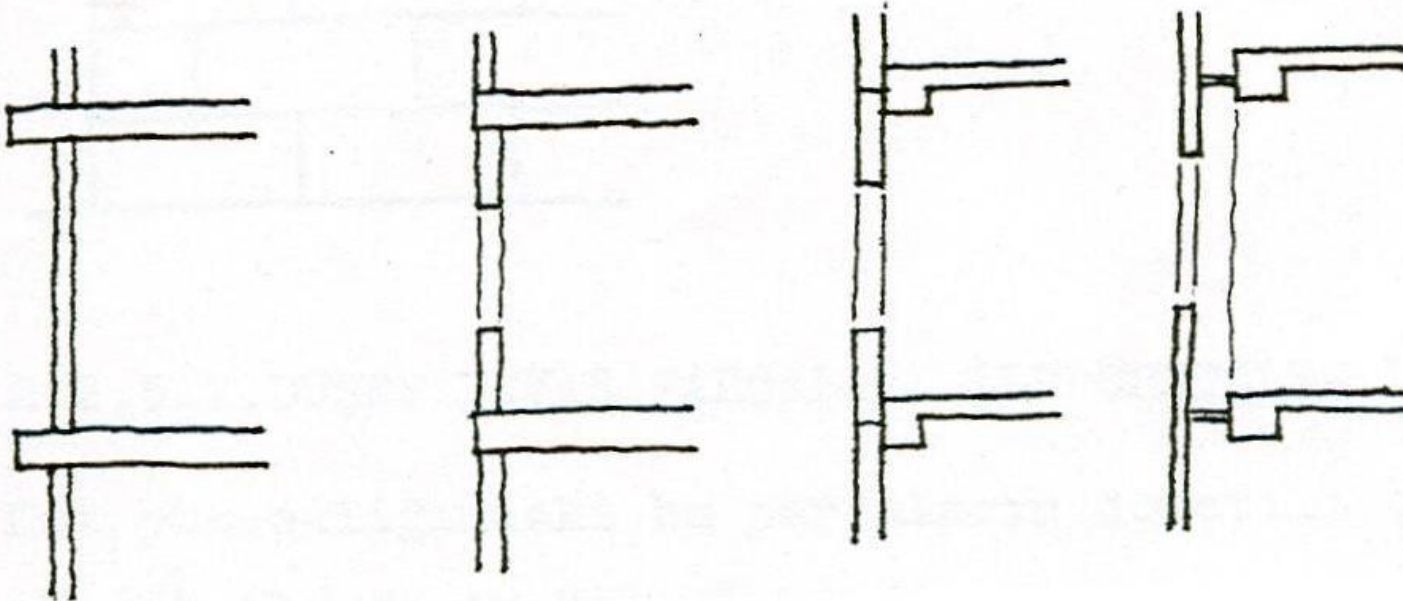
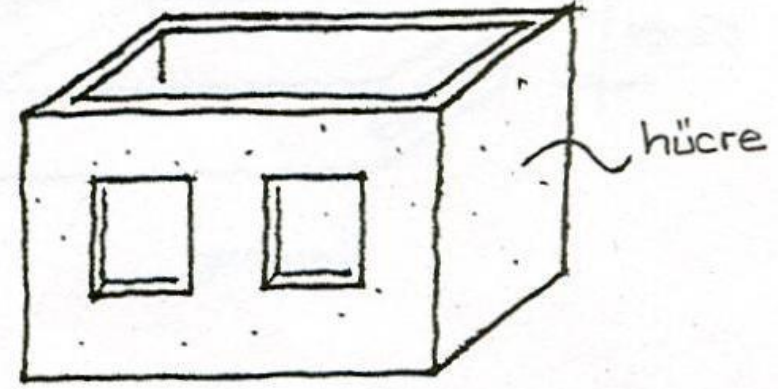
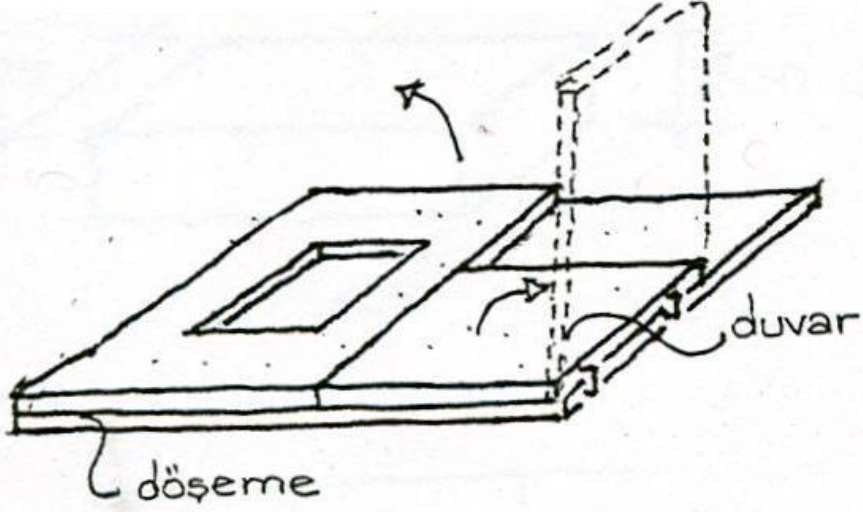
Betonarme Duvarlar



ÖN YAPIMLI BETON DUVARLAR



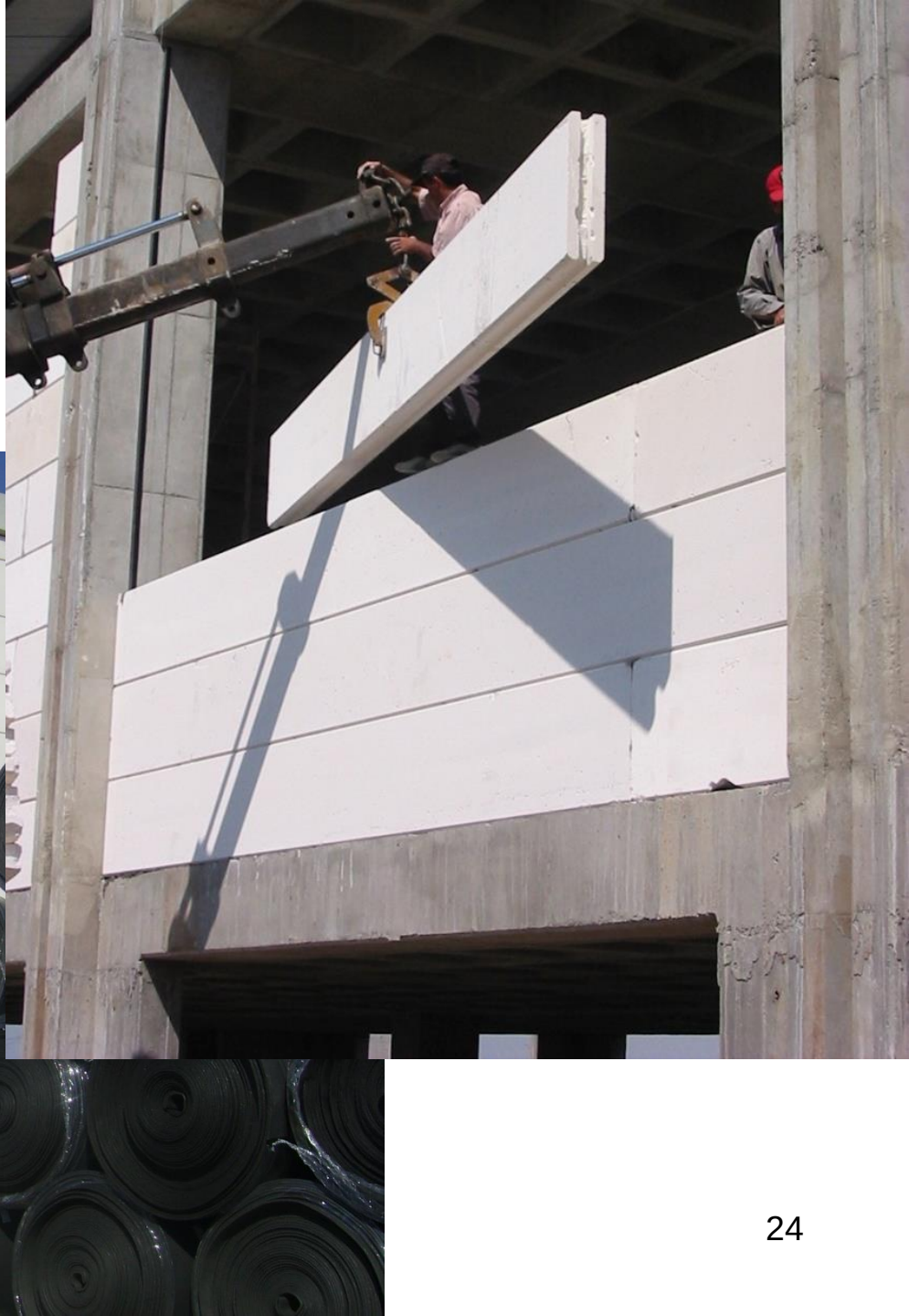
ÖN YAPIMLI BETON DUVARLAR



GAZBETON DUVARLAR

- Taşıyıcı olmayan duvarlar
- Taşıyıcı duvarlar

Taşıyıcı Olmayan Yatay Duvarlar



Taşıyıcı Olmayan Yatay Duvarlar

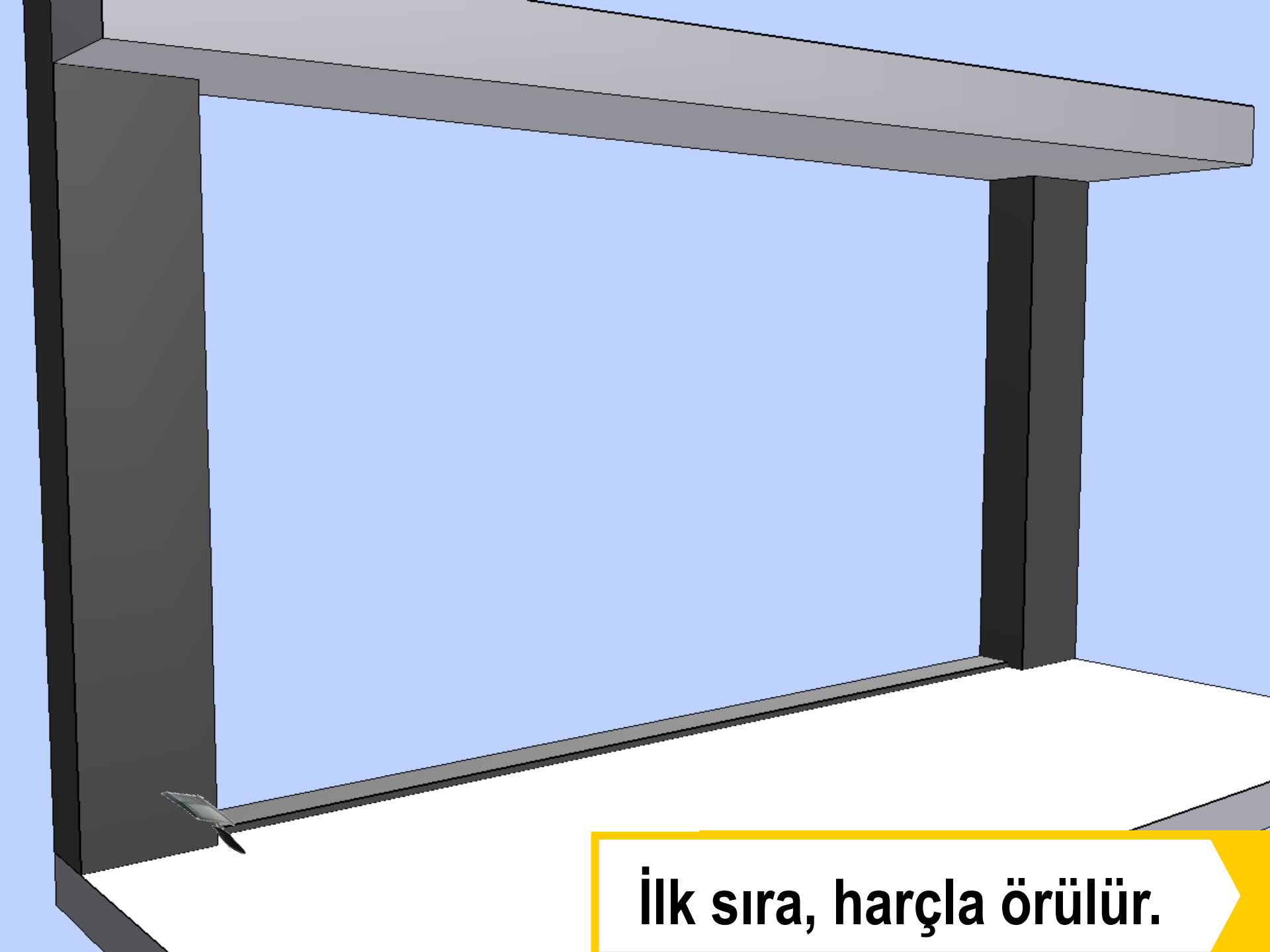


Taşıyıcı Olmayan Düşey Duvarlar

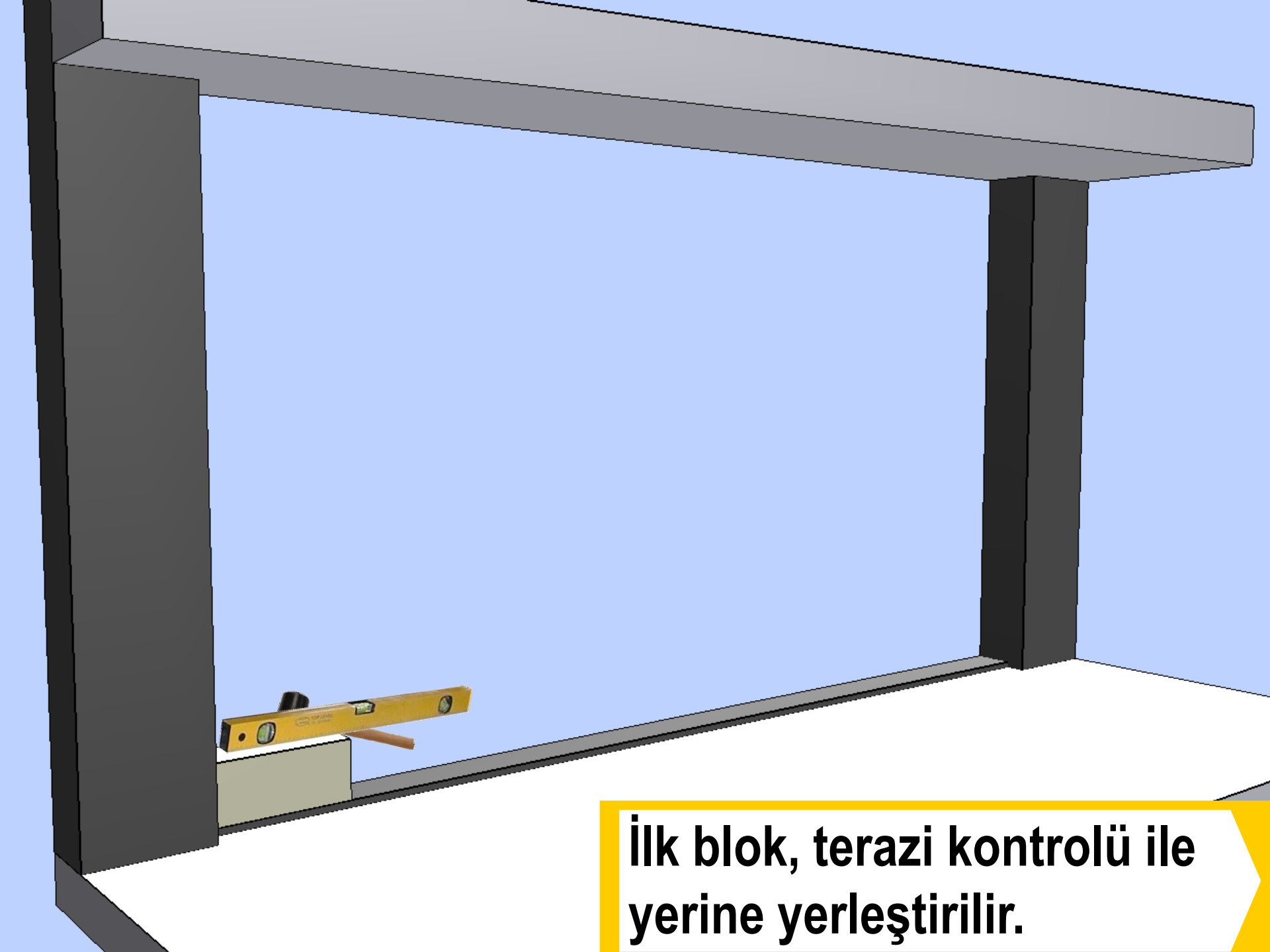


Taşıyıcı Gazbeton Duvarlar

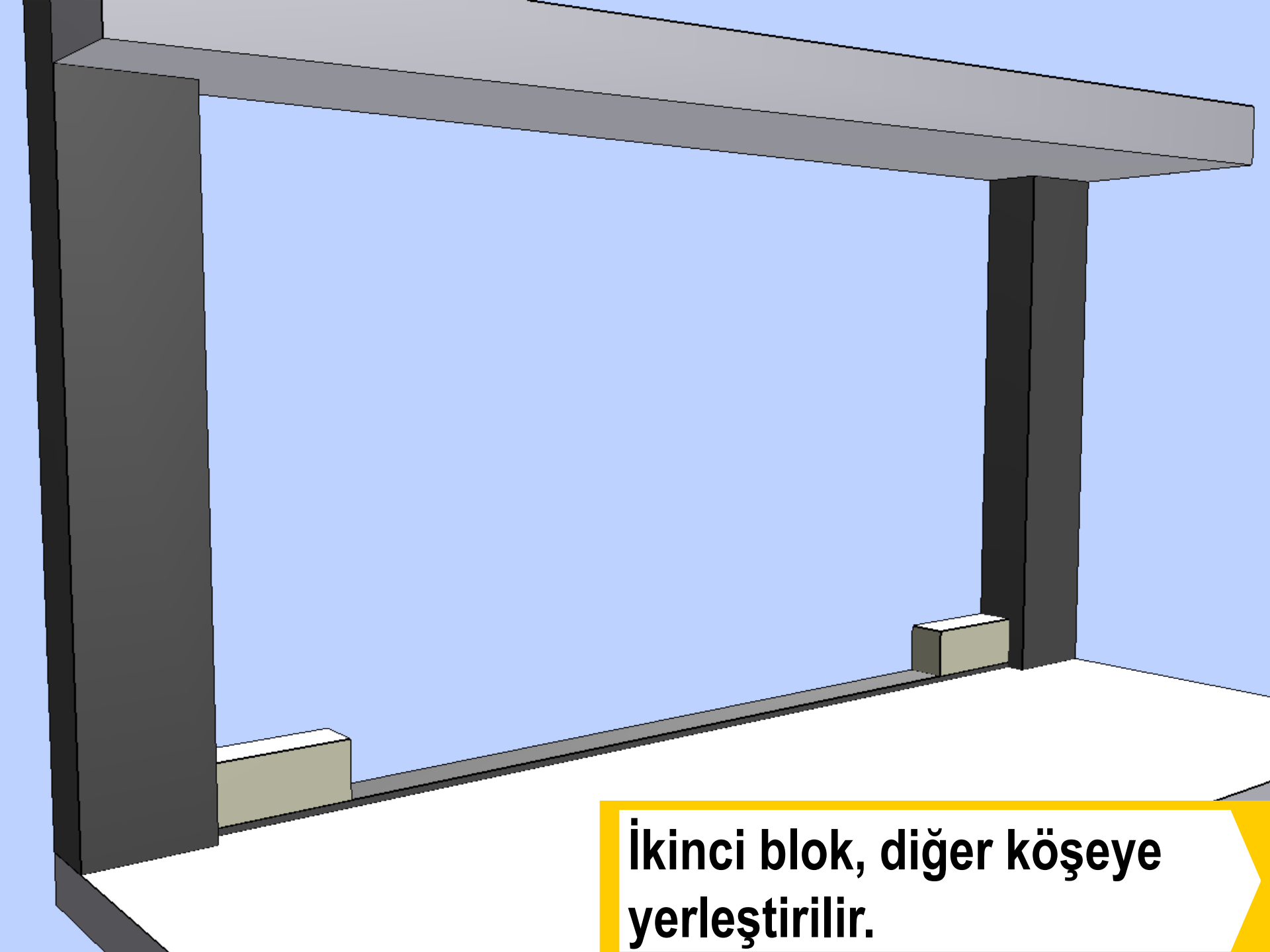




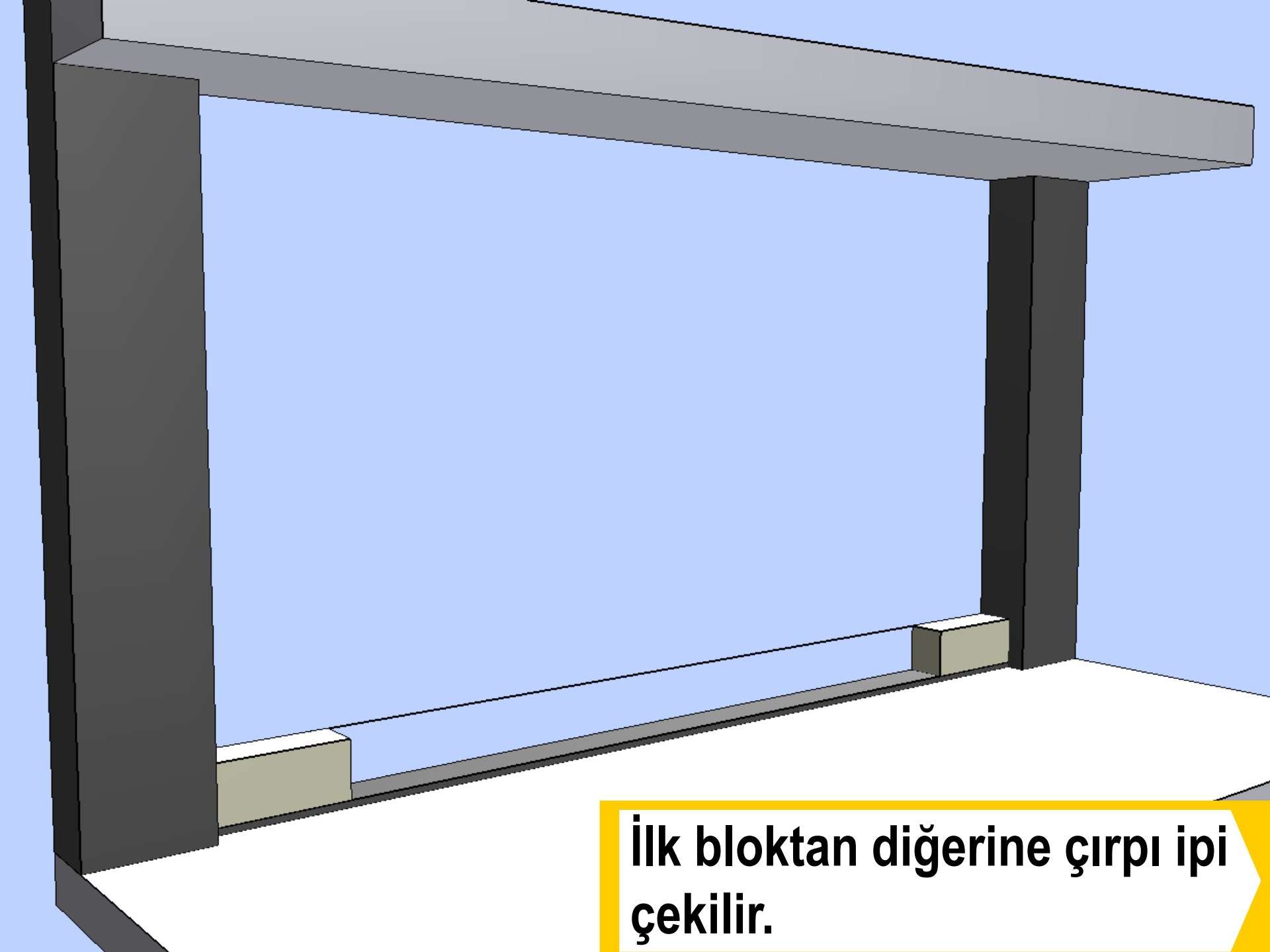
İlk sıra, harçla örölür.



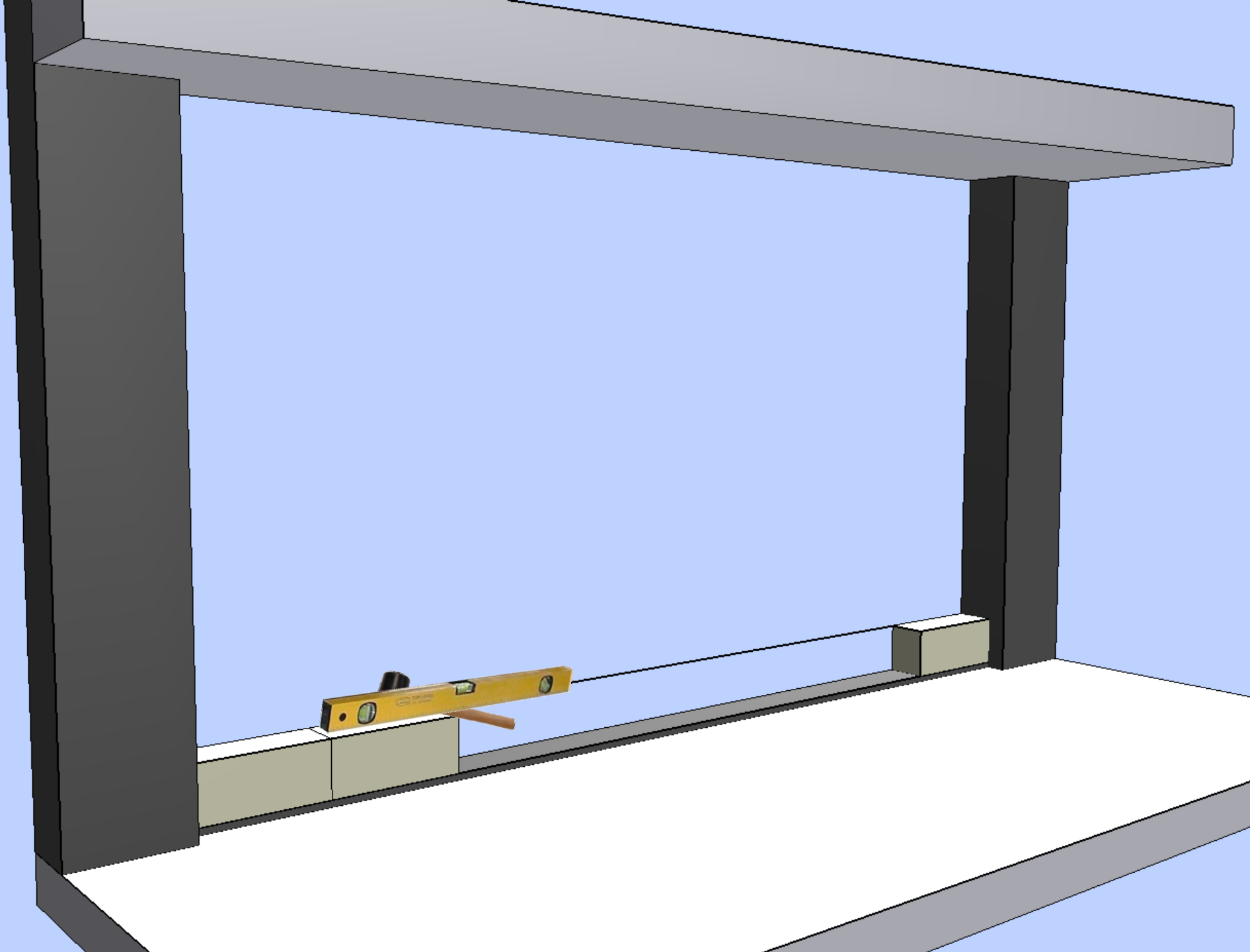
İlk blok, terazi kontrolü ile yerine yerleştirilir.

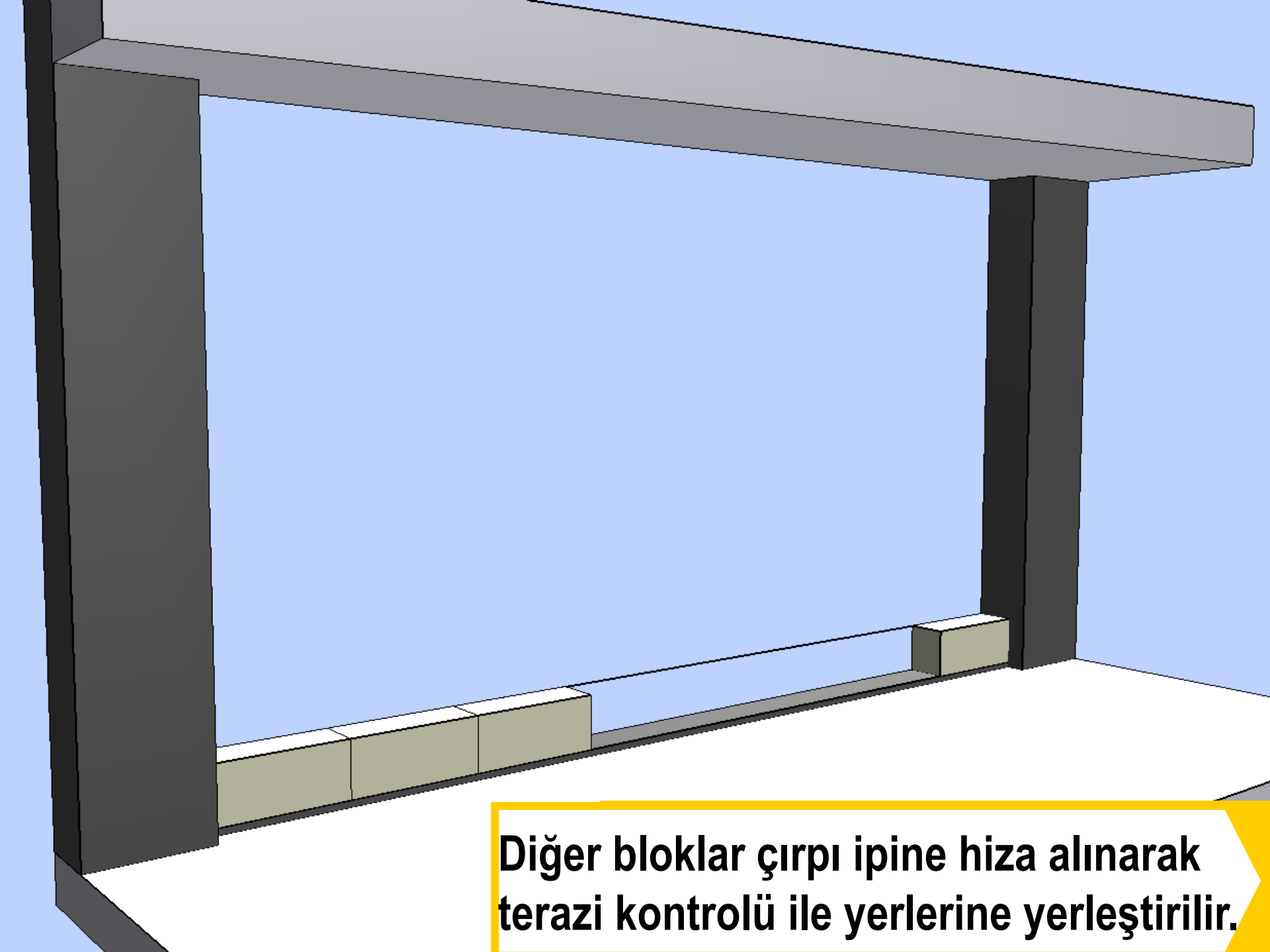


**İkinci blok, diğer köşeye
yerleştirilir.**

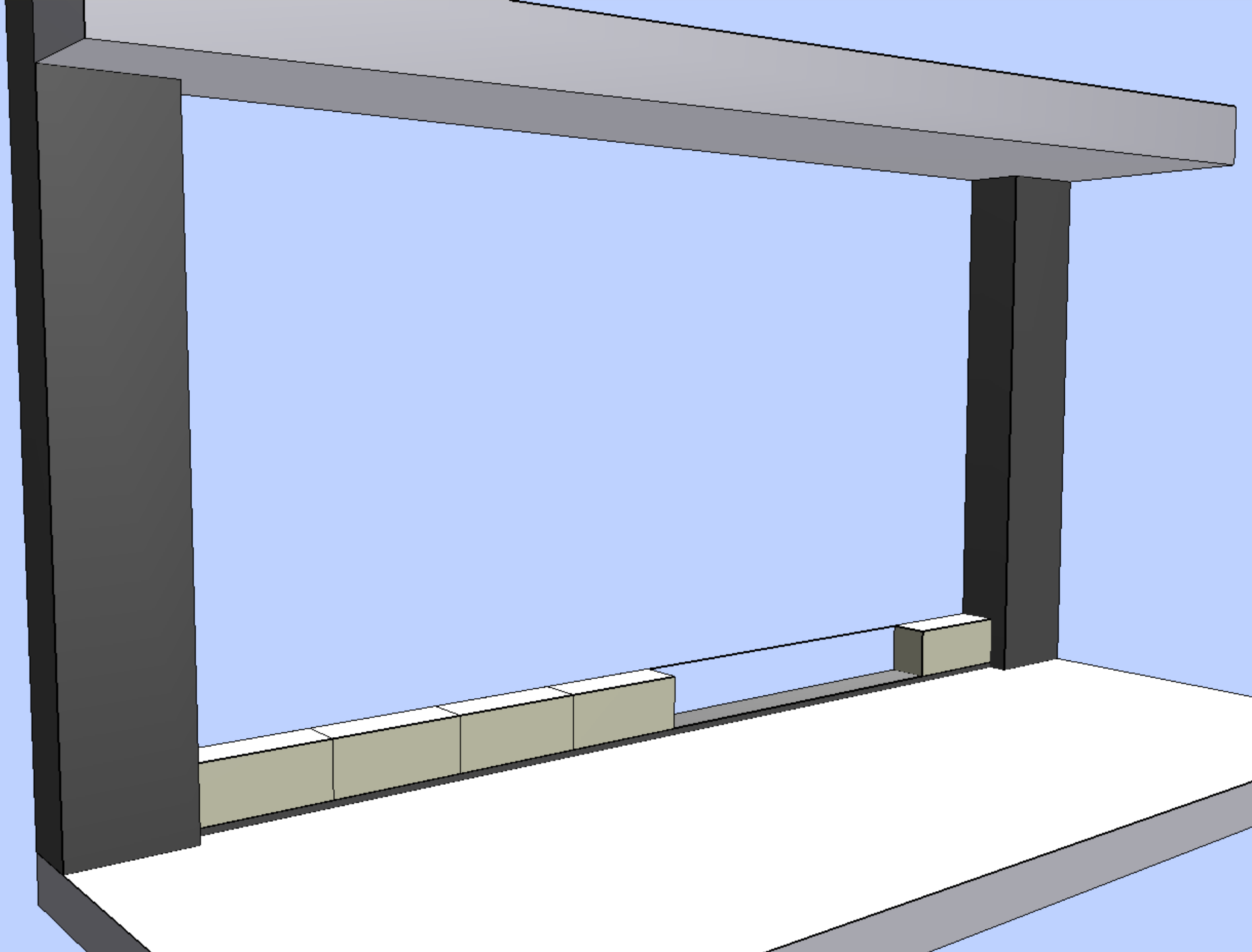


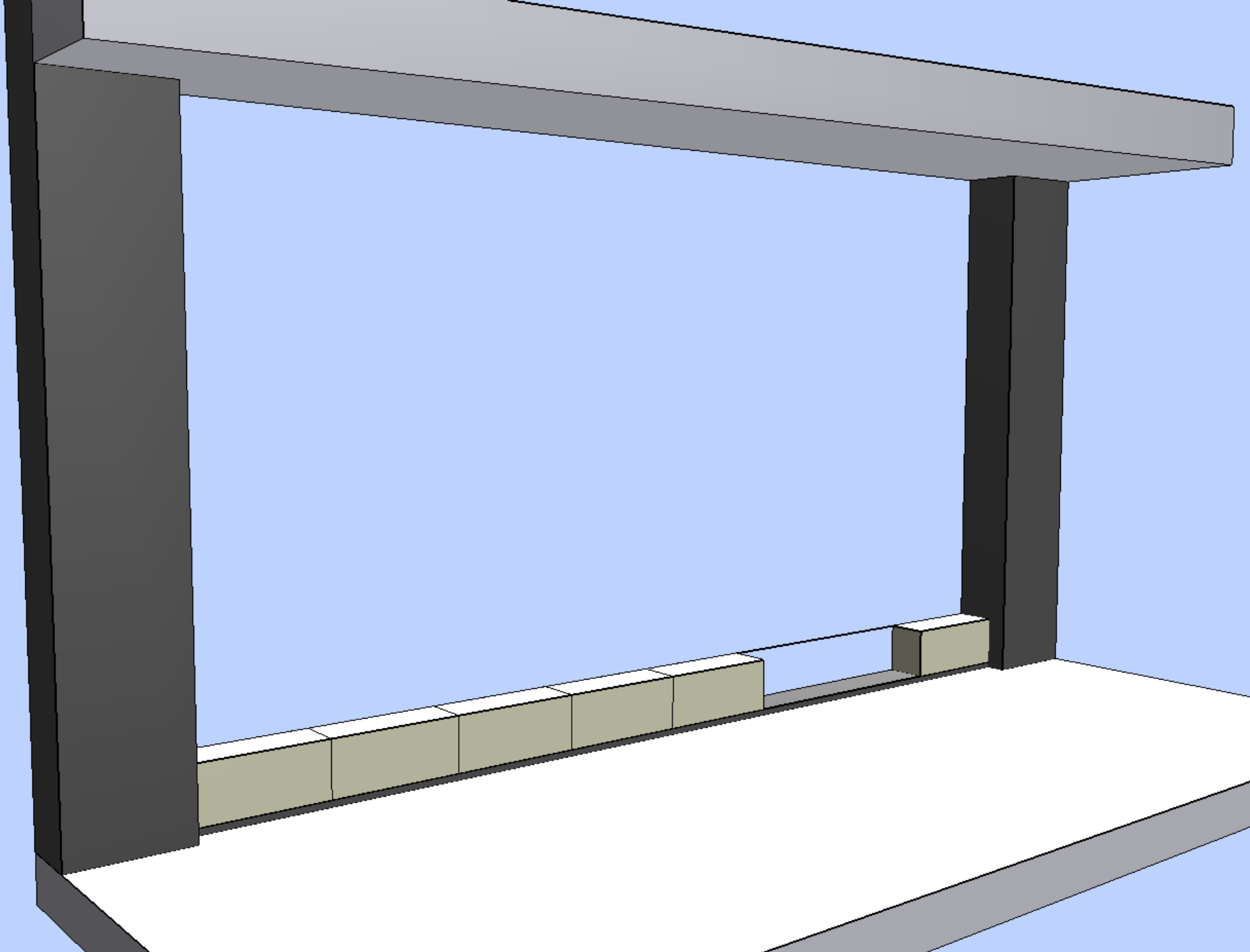
İlk bloktan diğerine çırpı ipi çekilir.

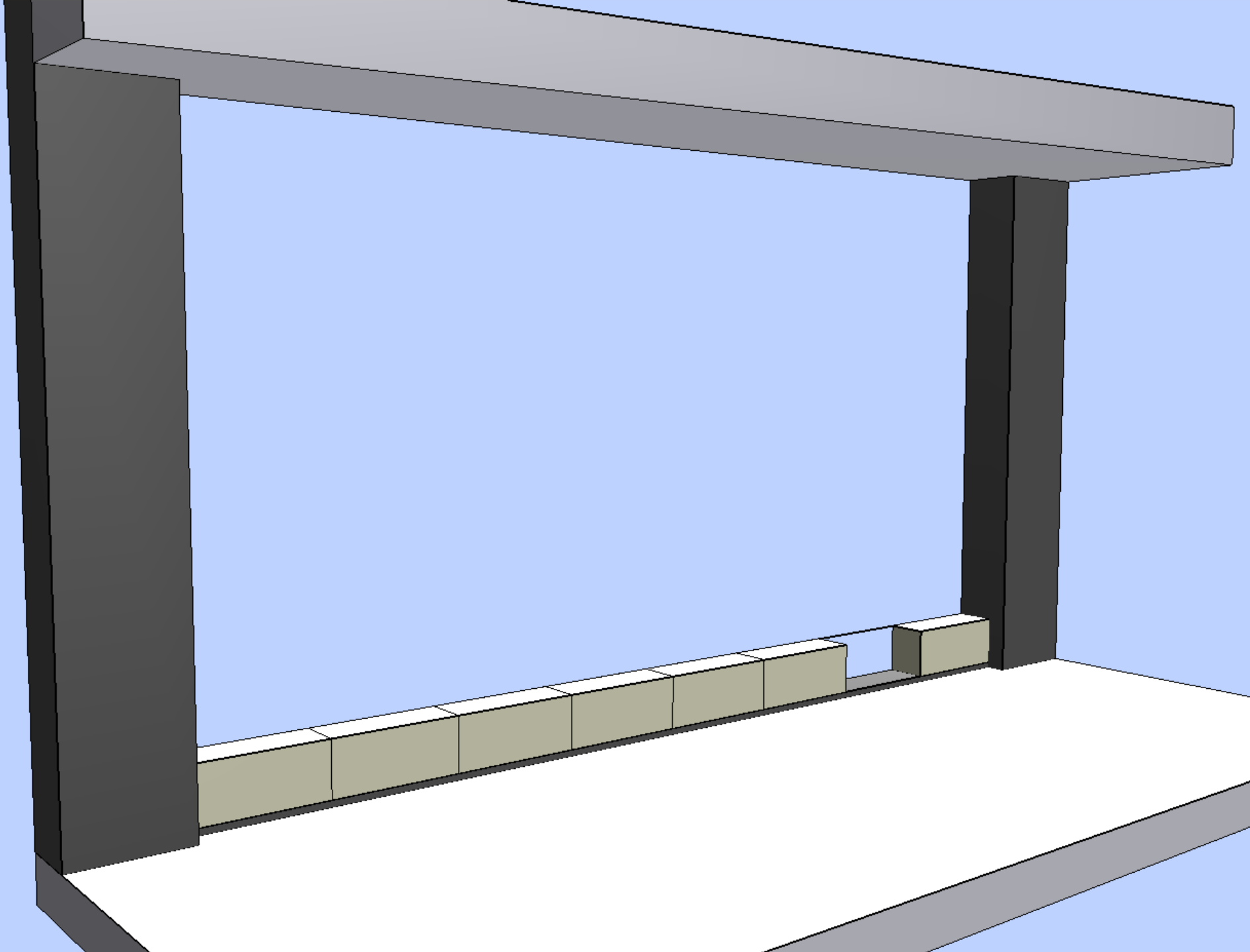


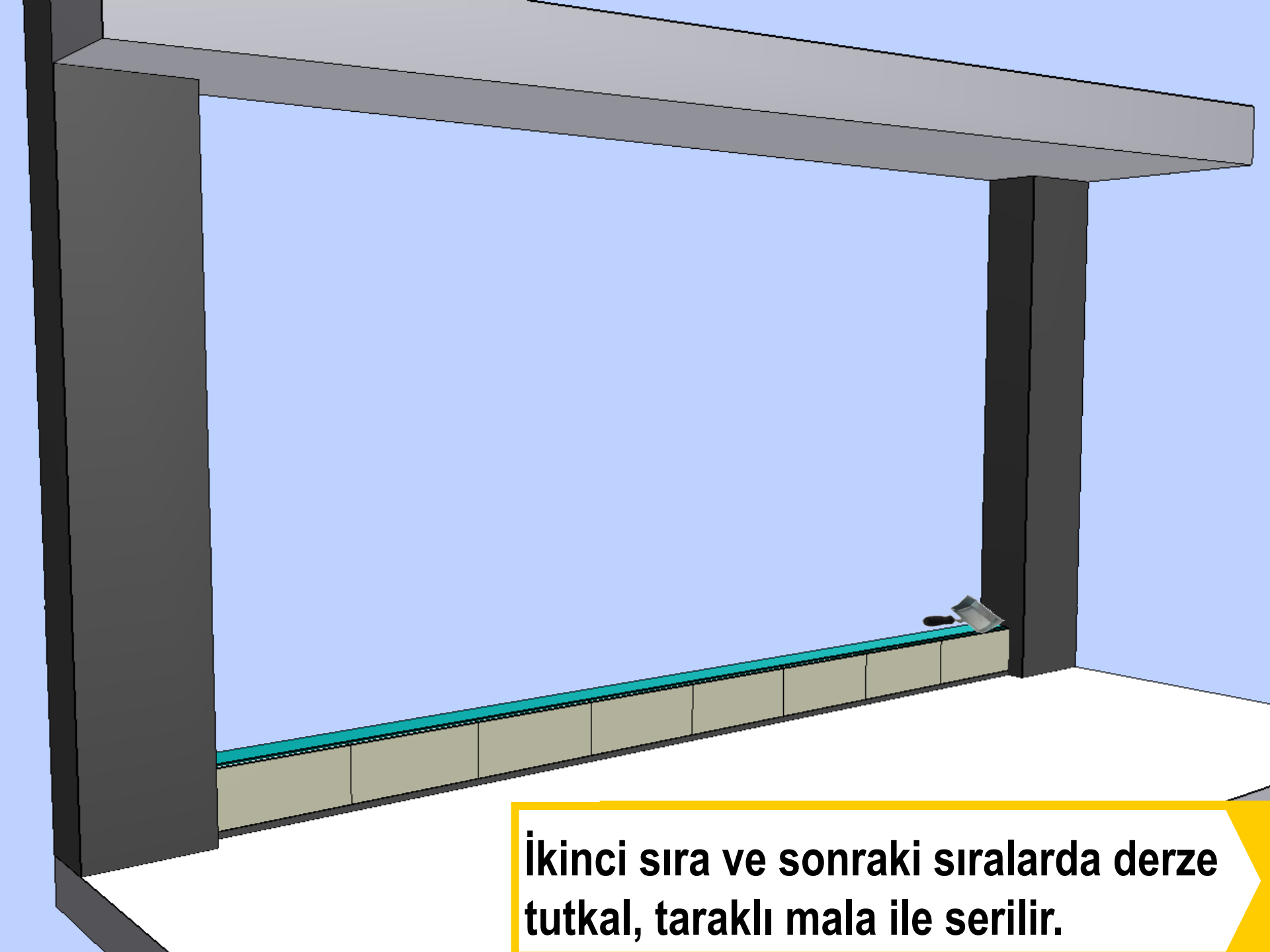


Diğer bloklar ırpı ipine hiza alınarak terazi kontrolü ile yerlerine yerleştirilir.

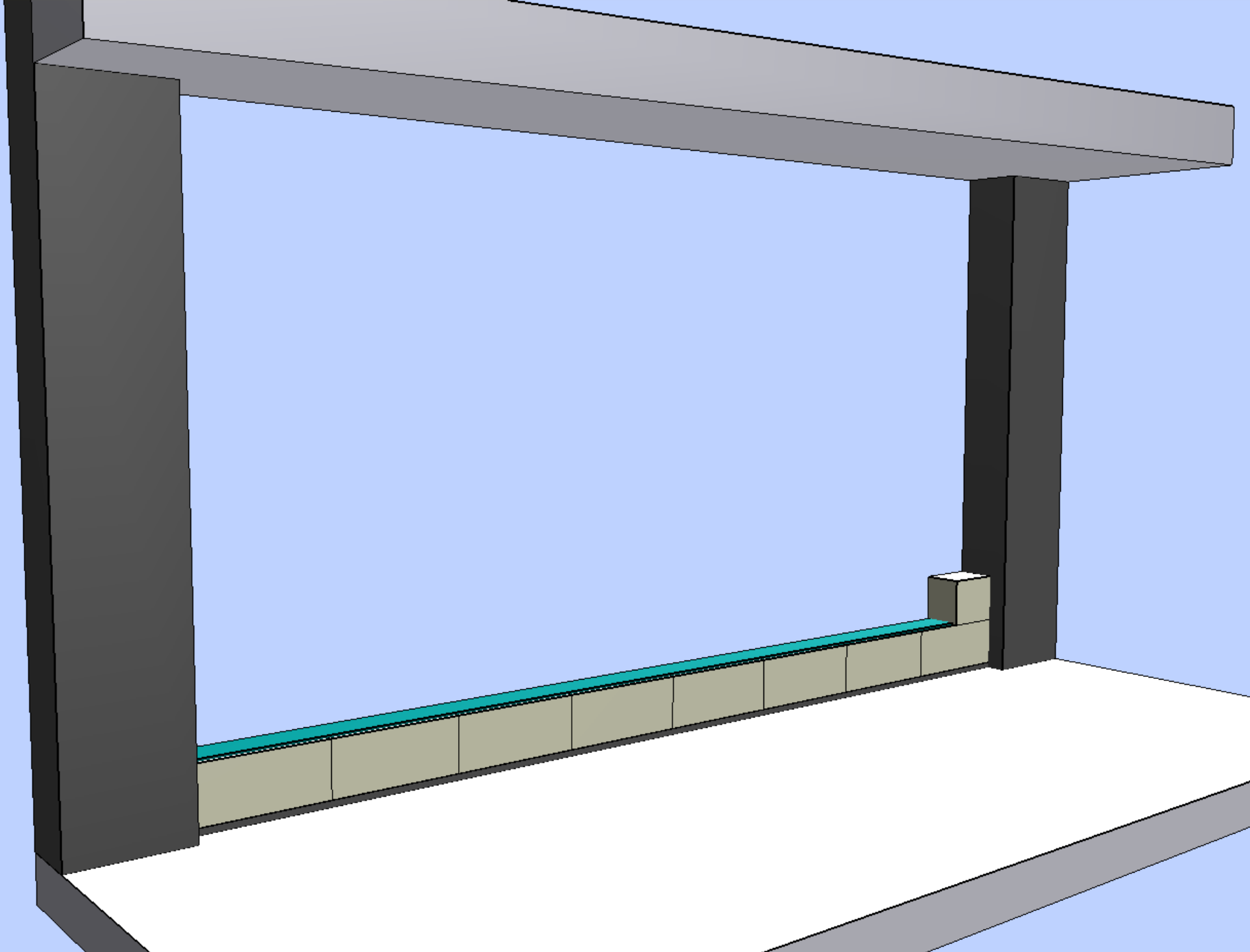


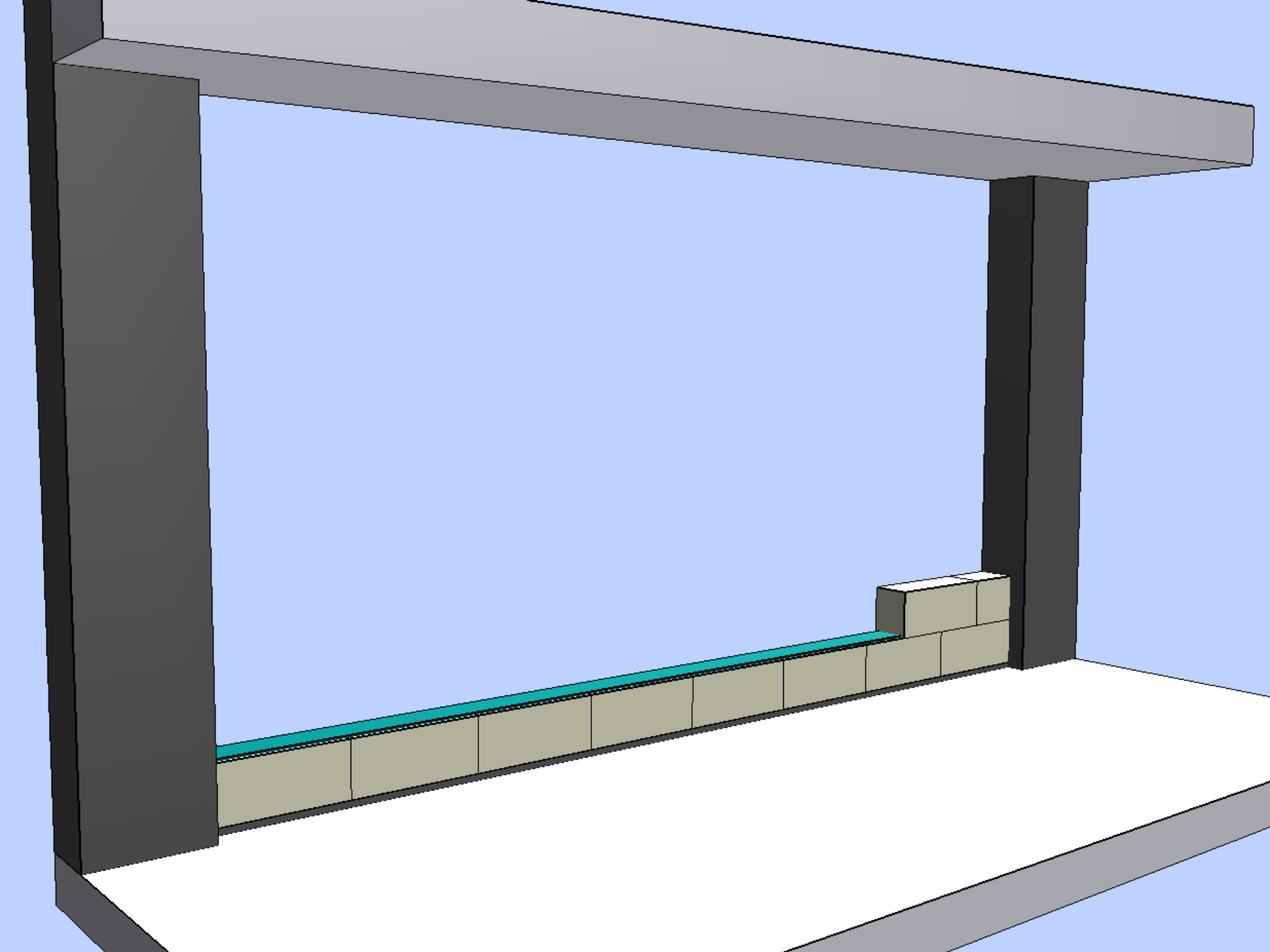


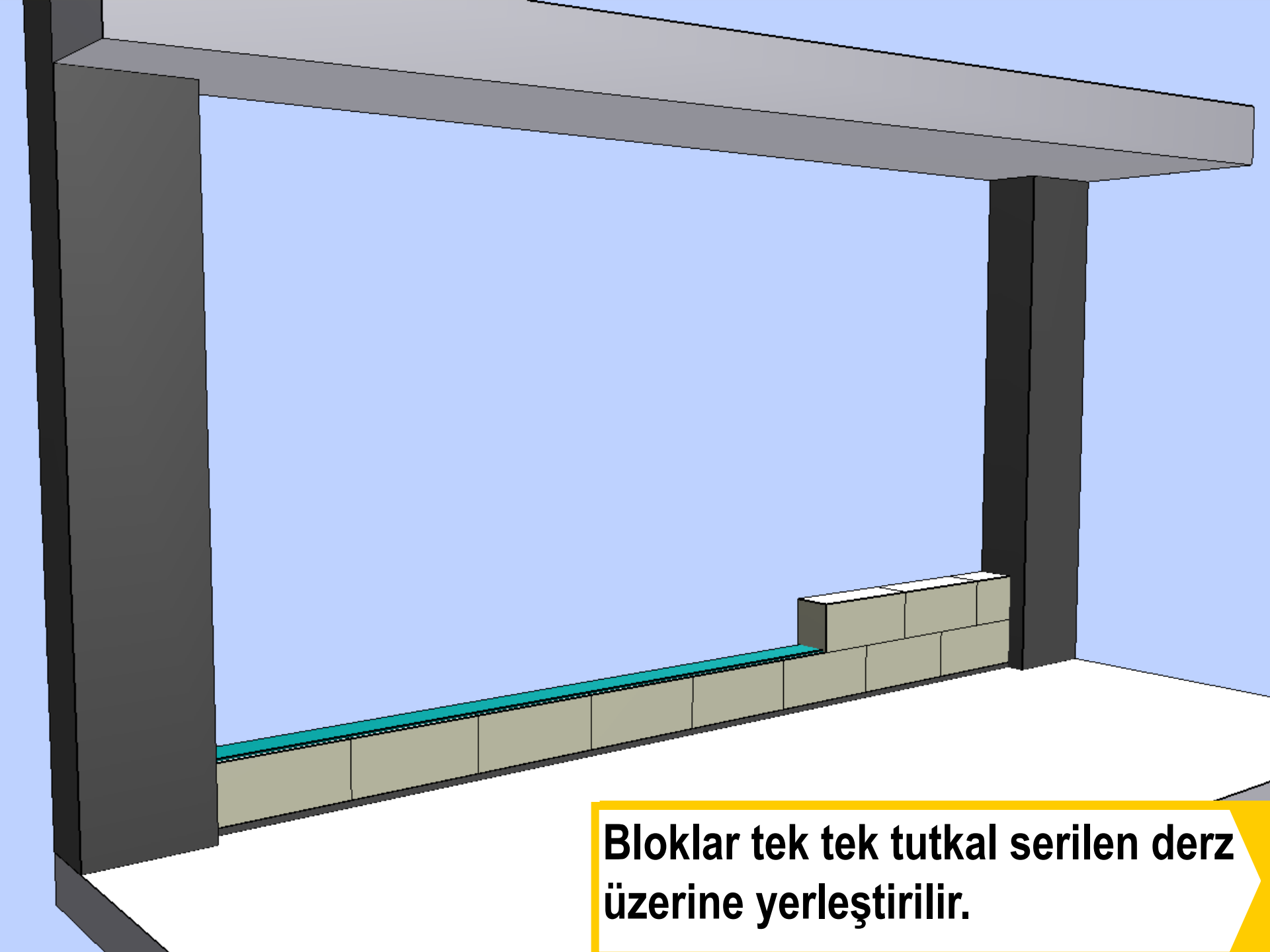




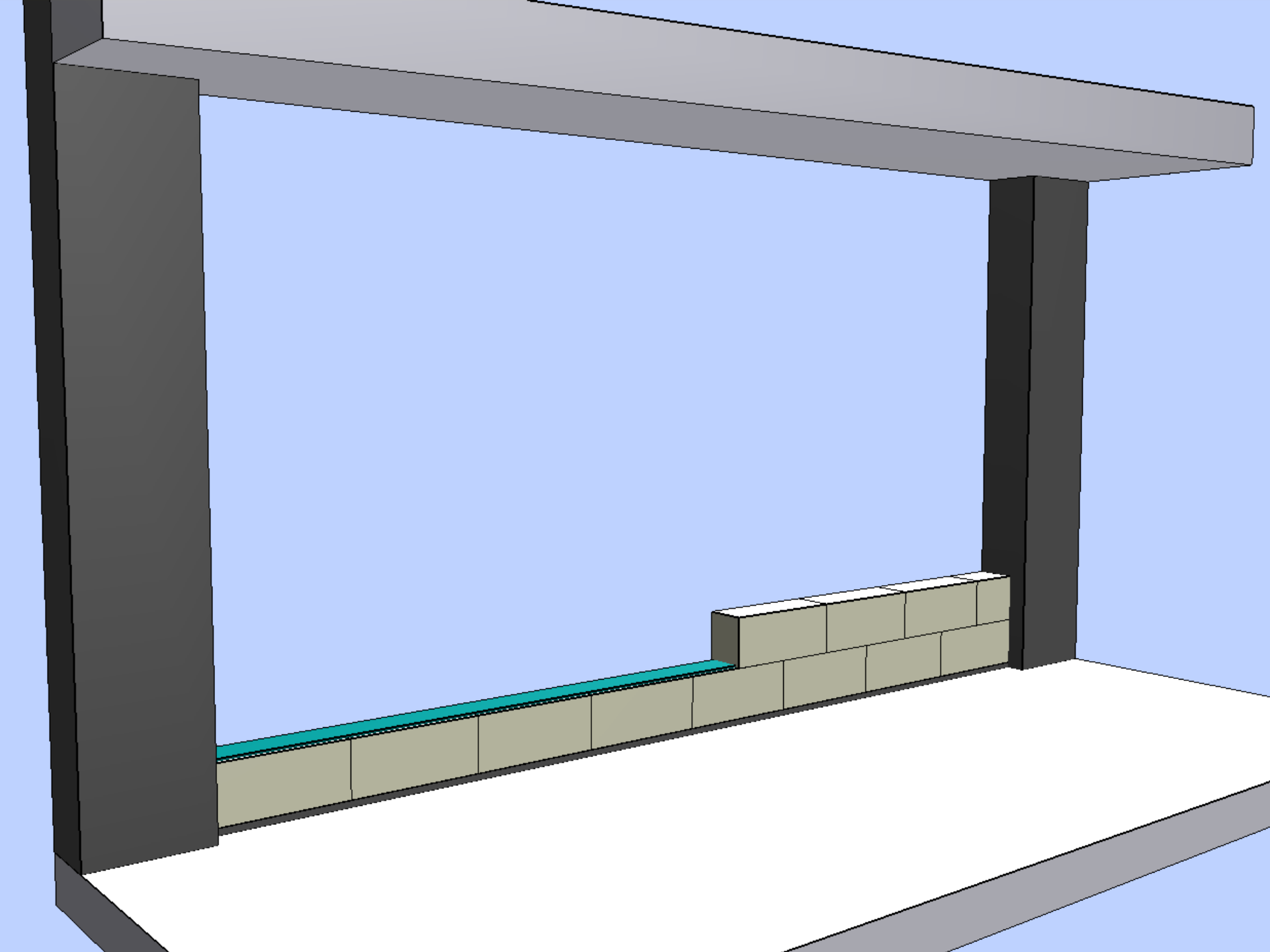
İkinci sıra ve sonraki sıralarda derze tutkal, taraklı mala ile serilir.

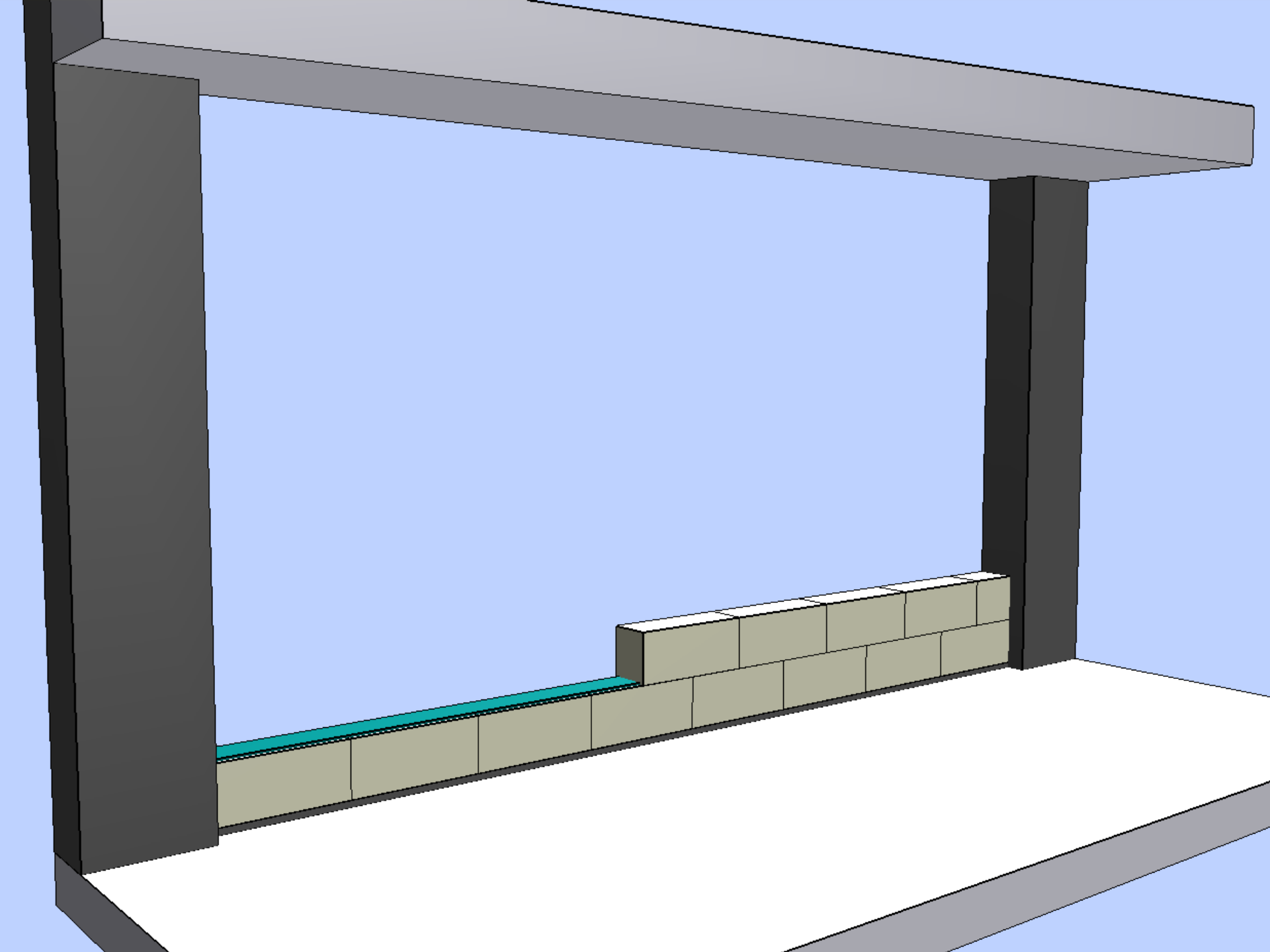


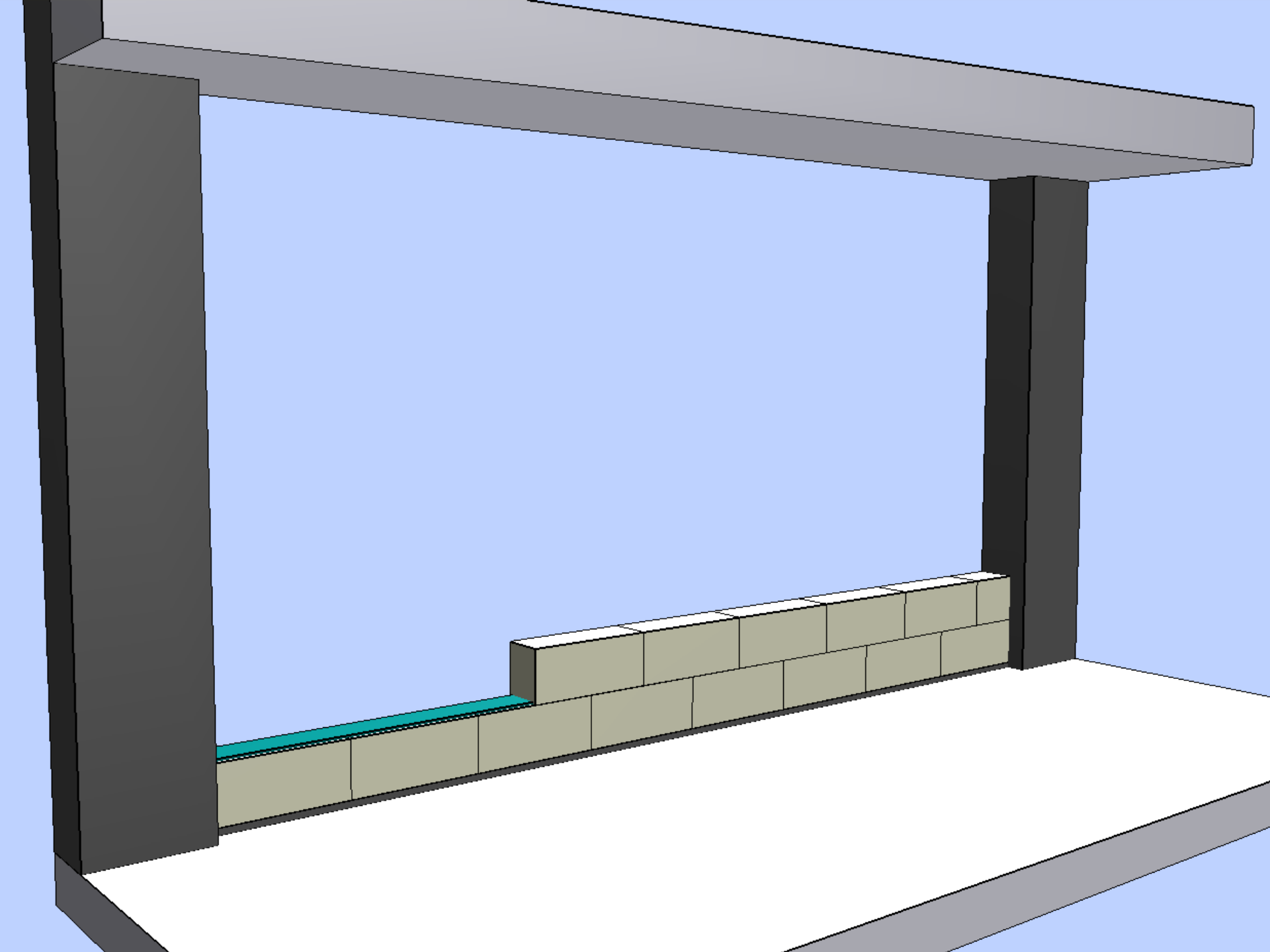


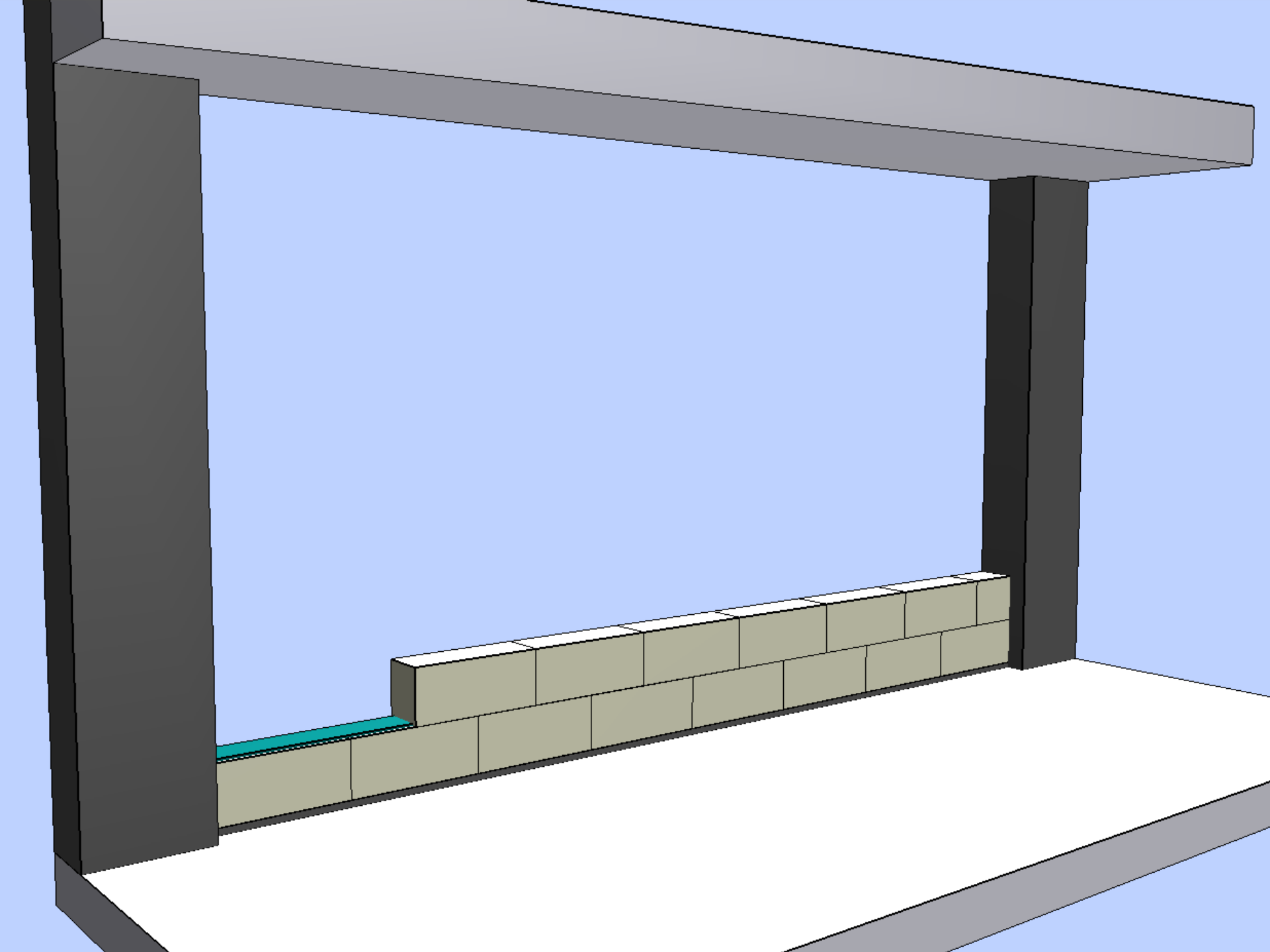


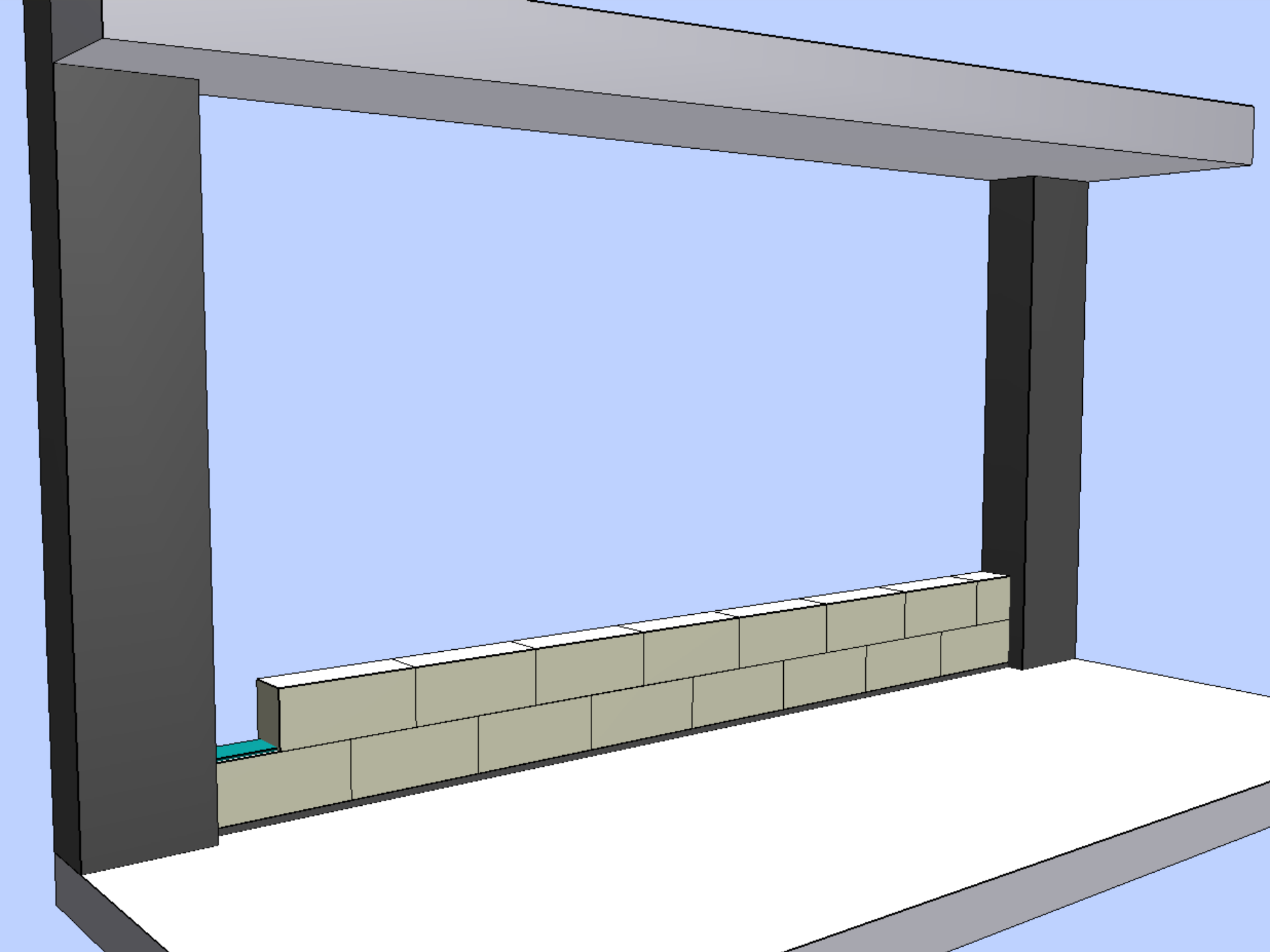
**Bloklar tek tek tutkal serilen derz
üzerine yerleştirilir.**

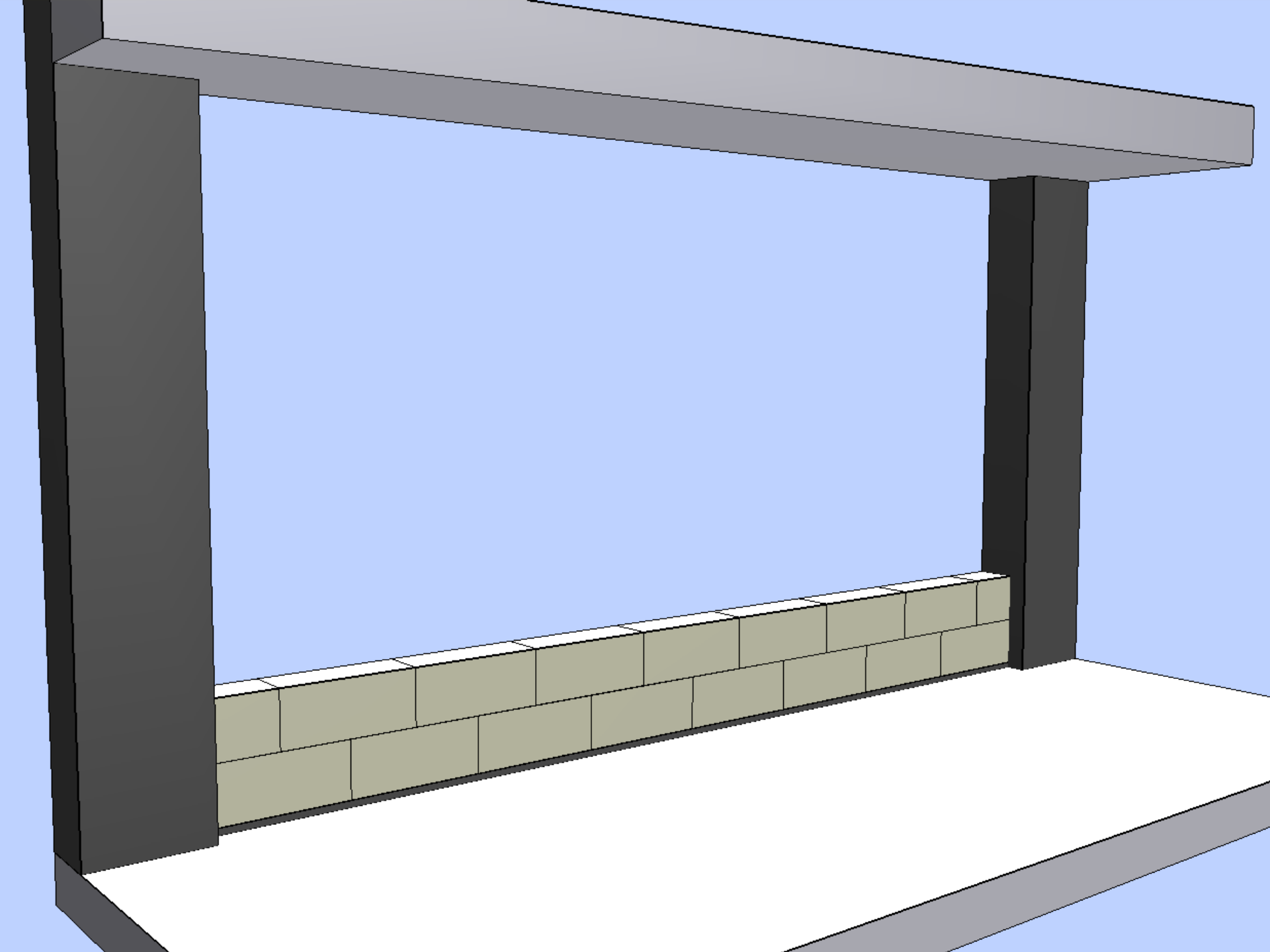


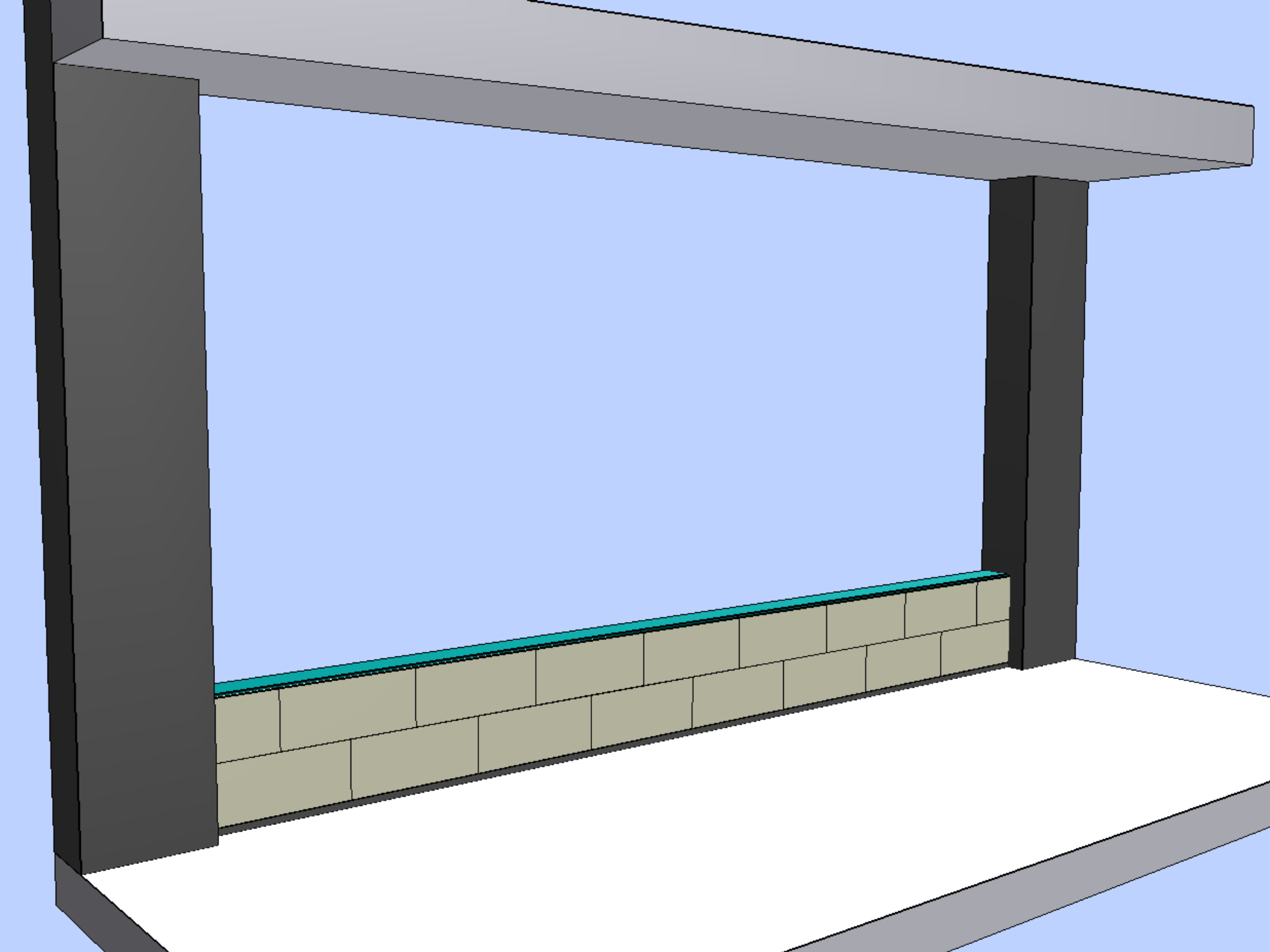


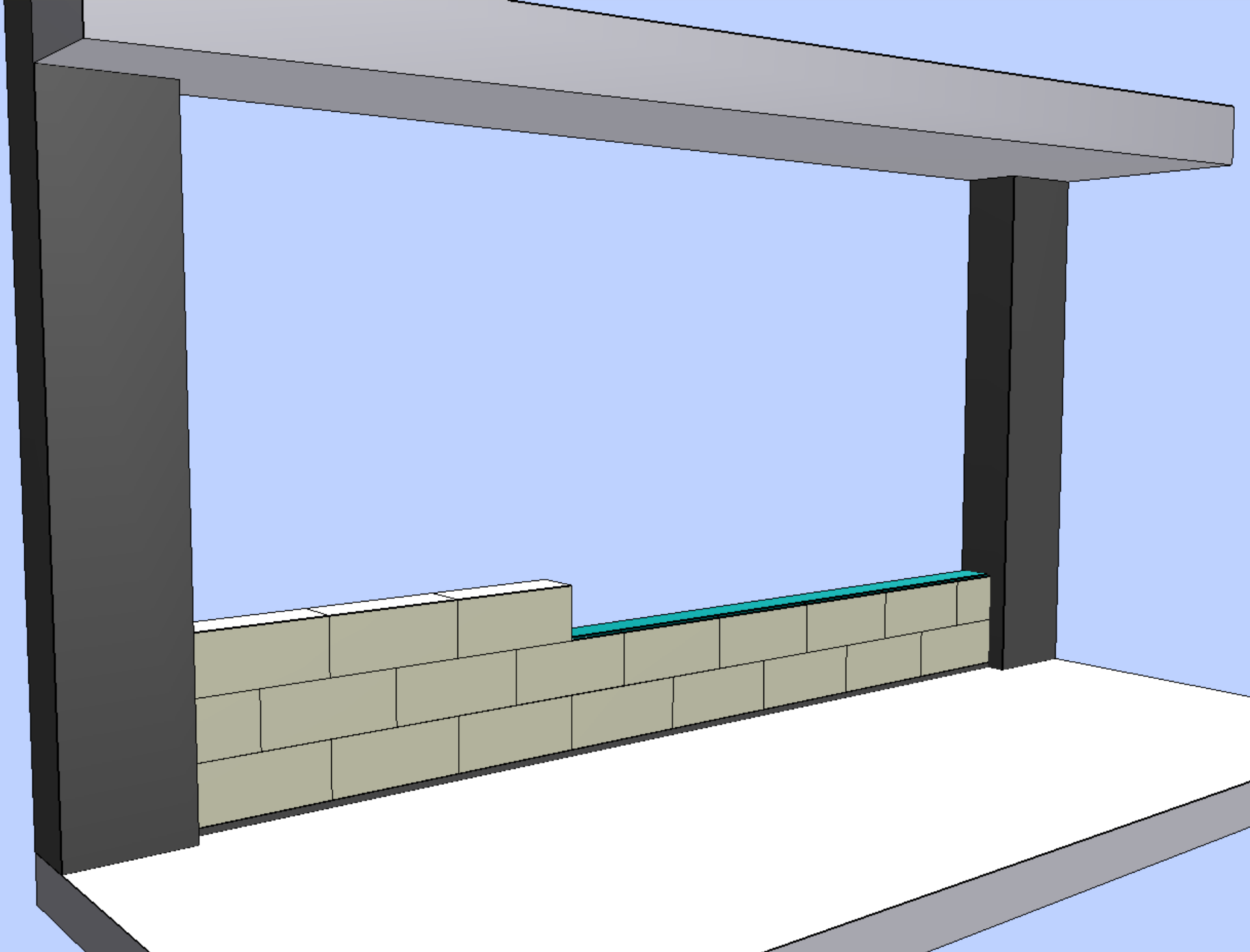


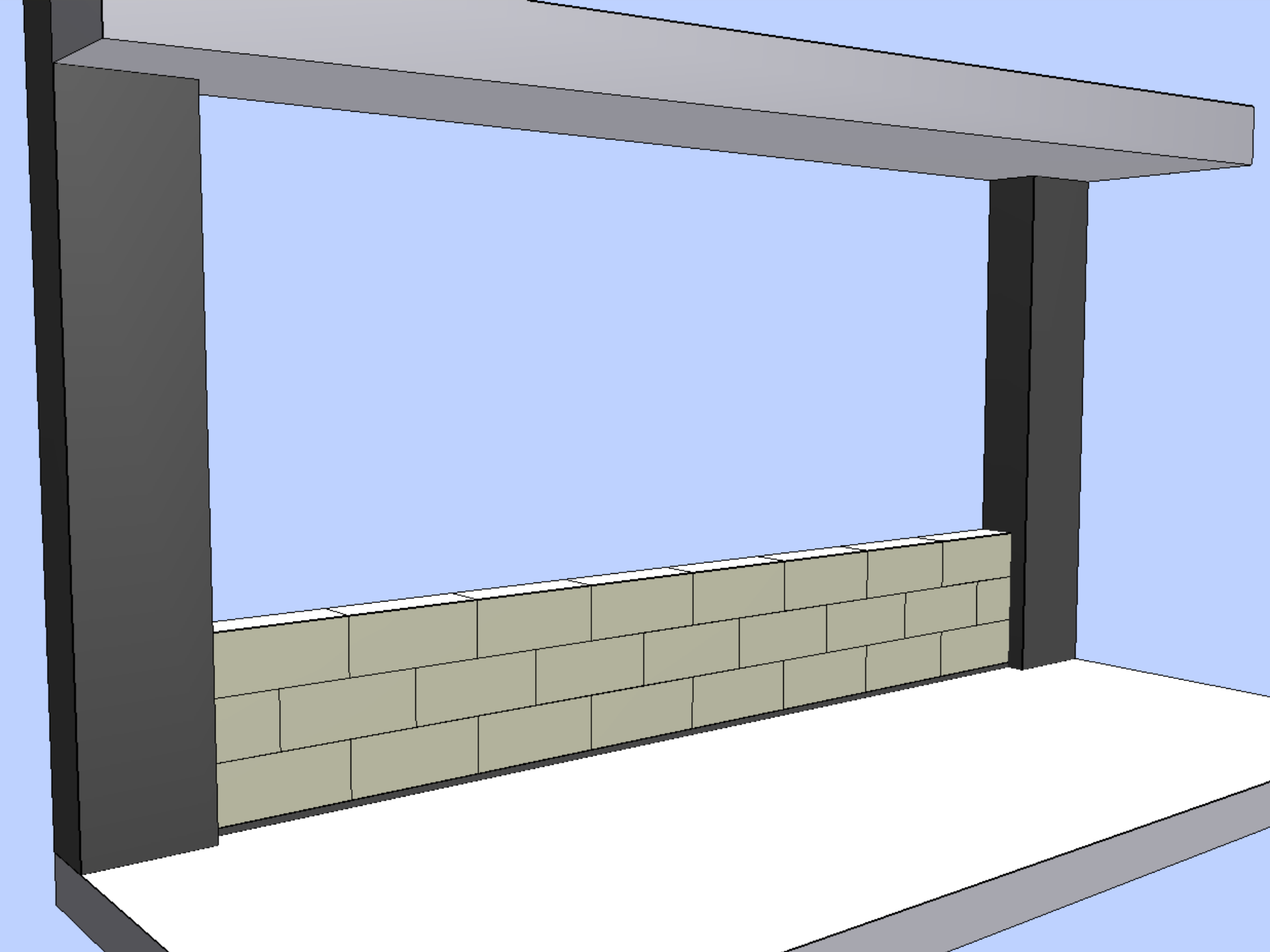


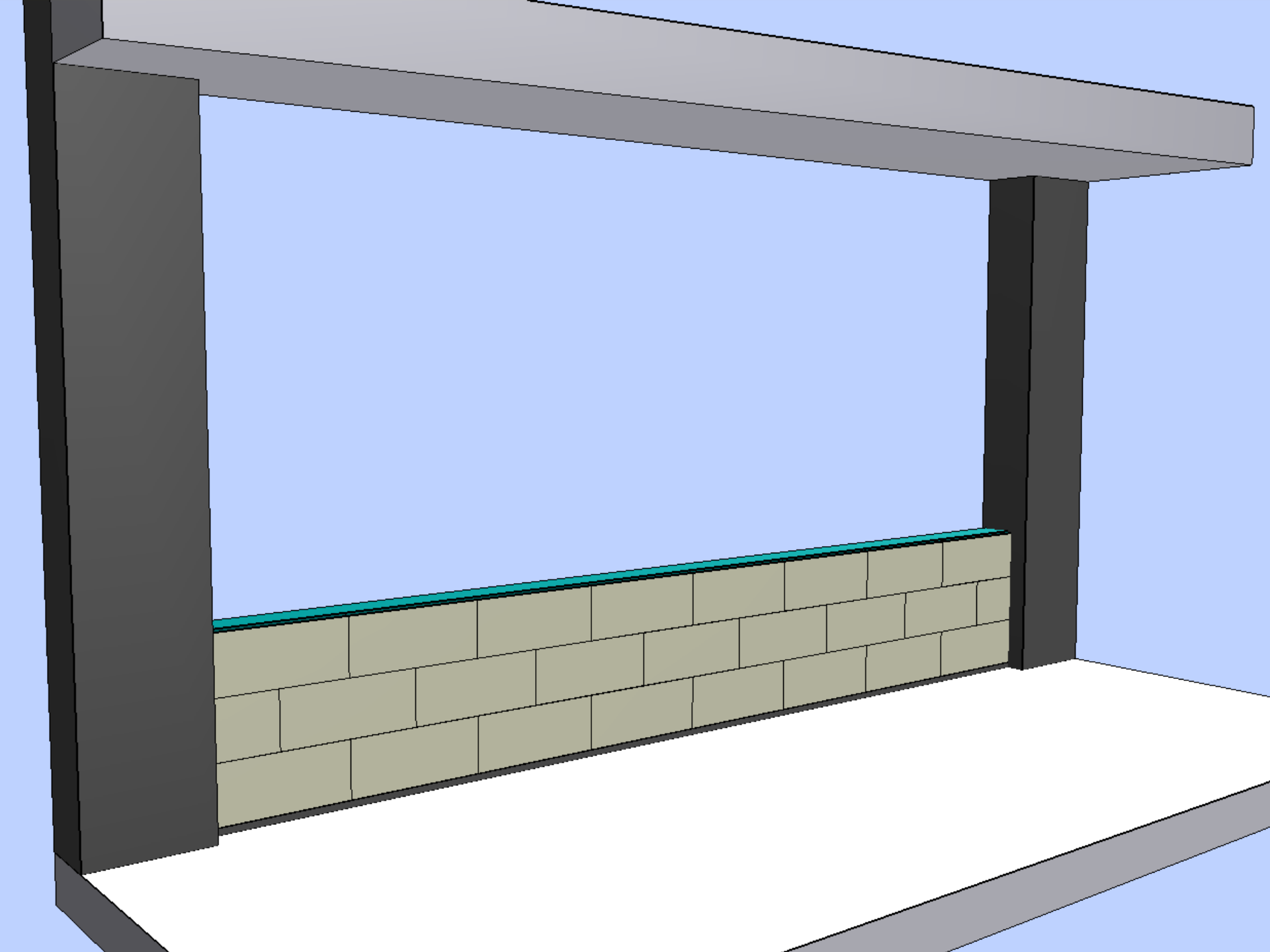


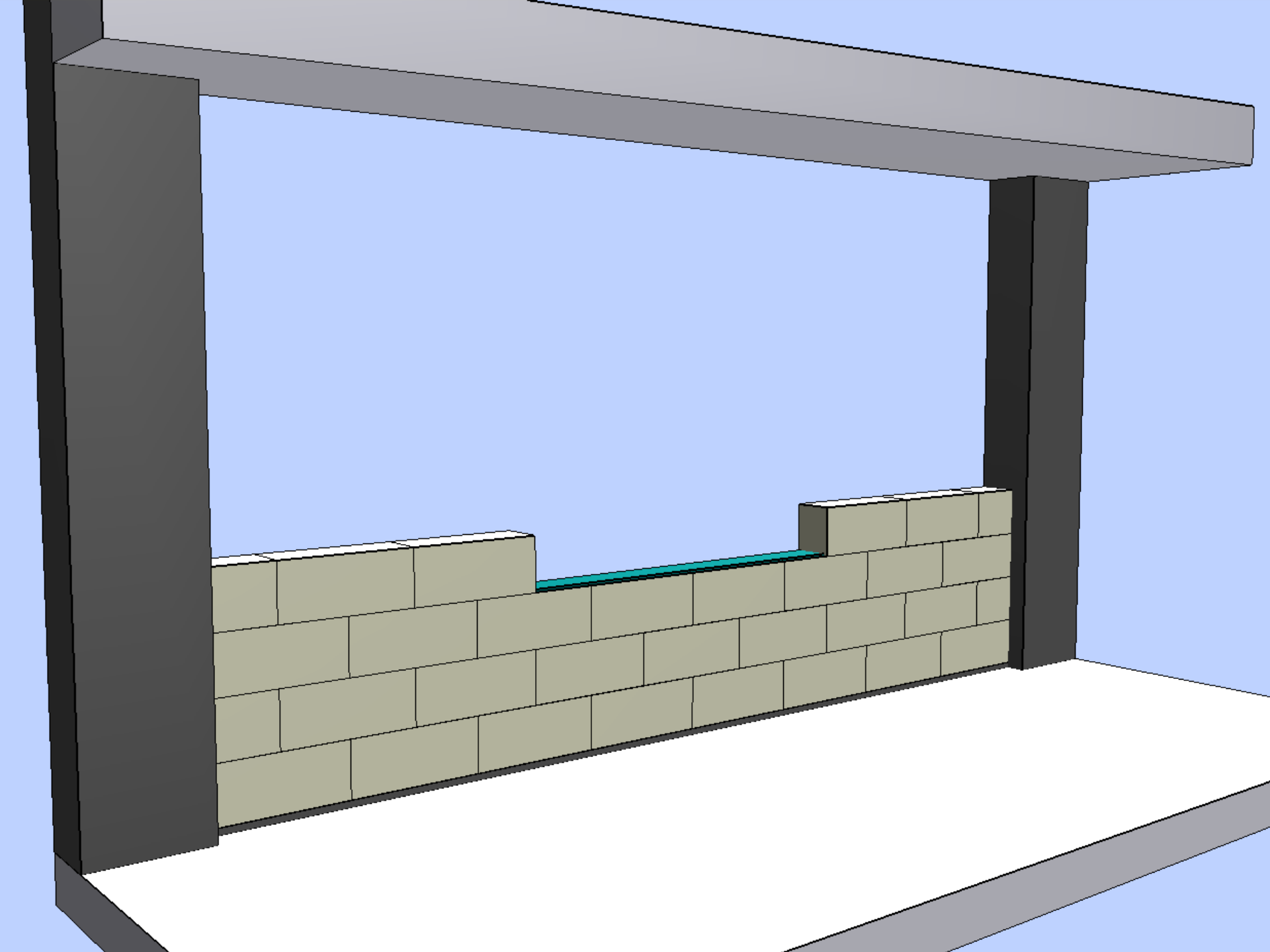


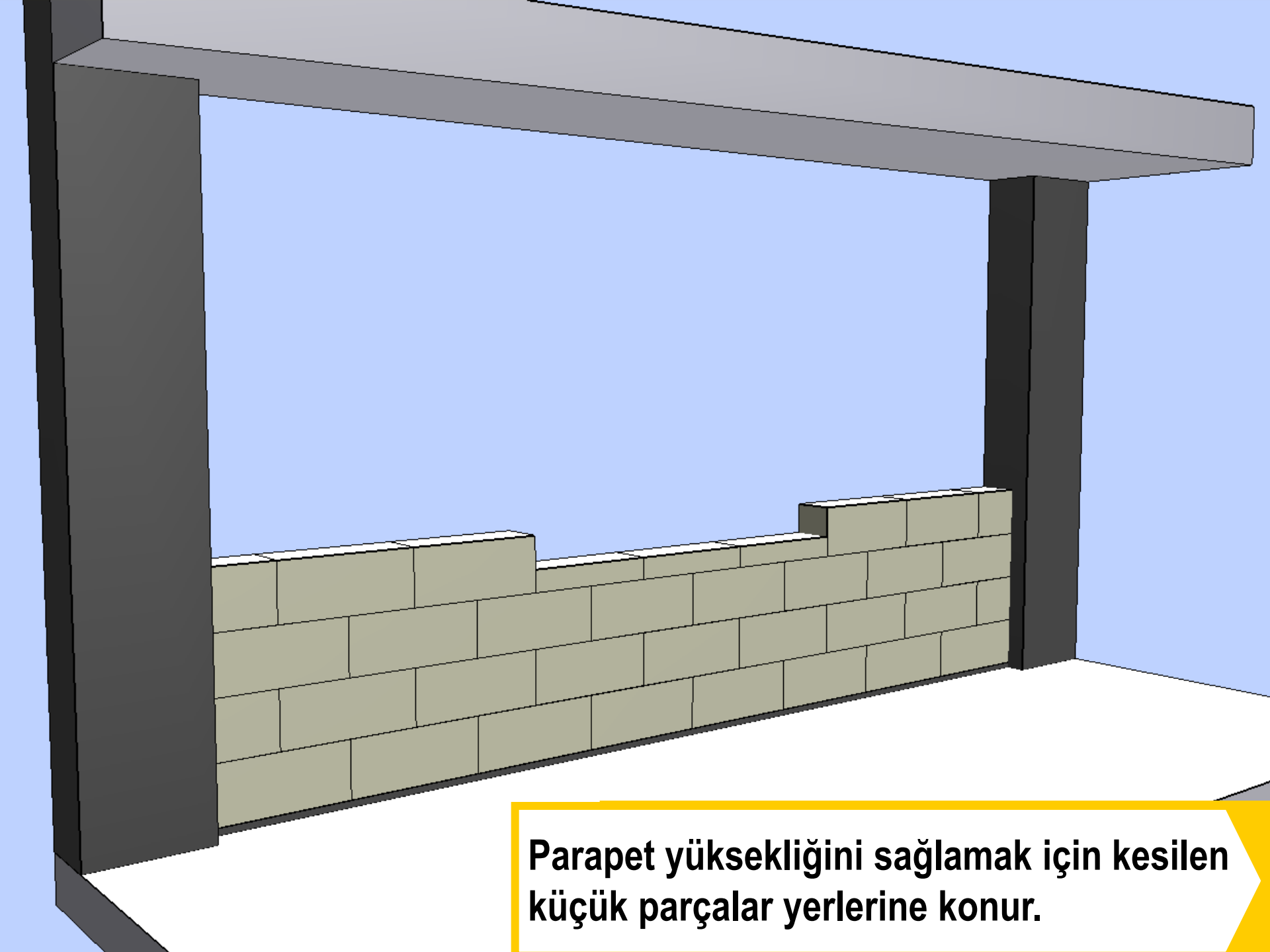




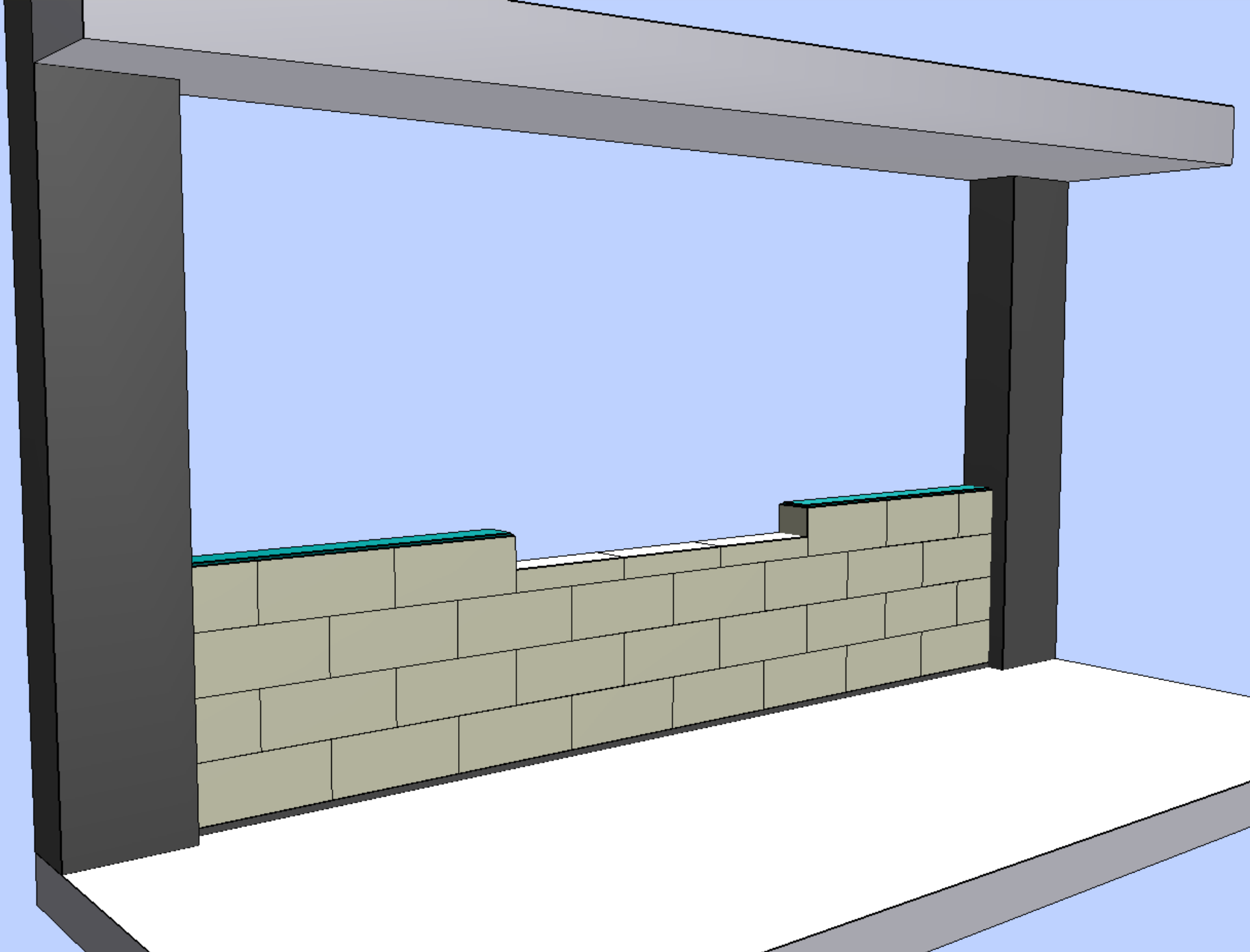


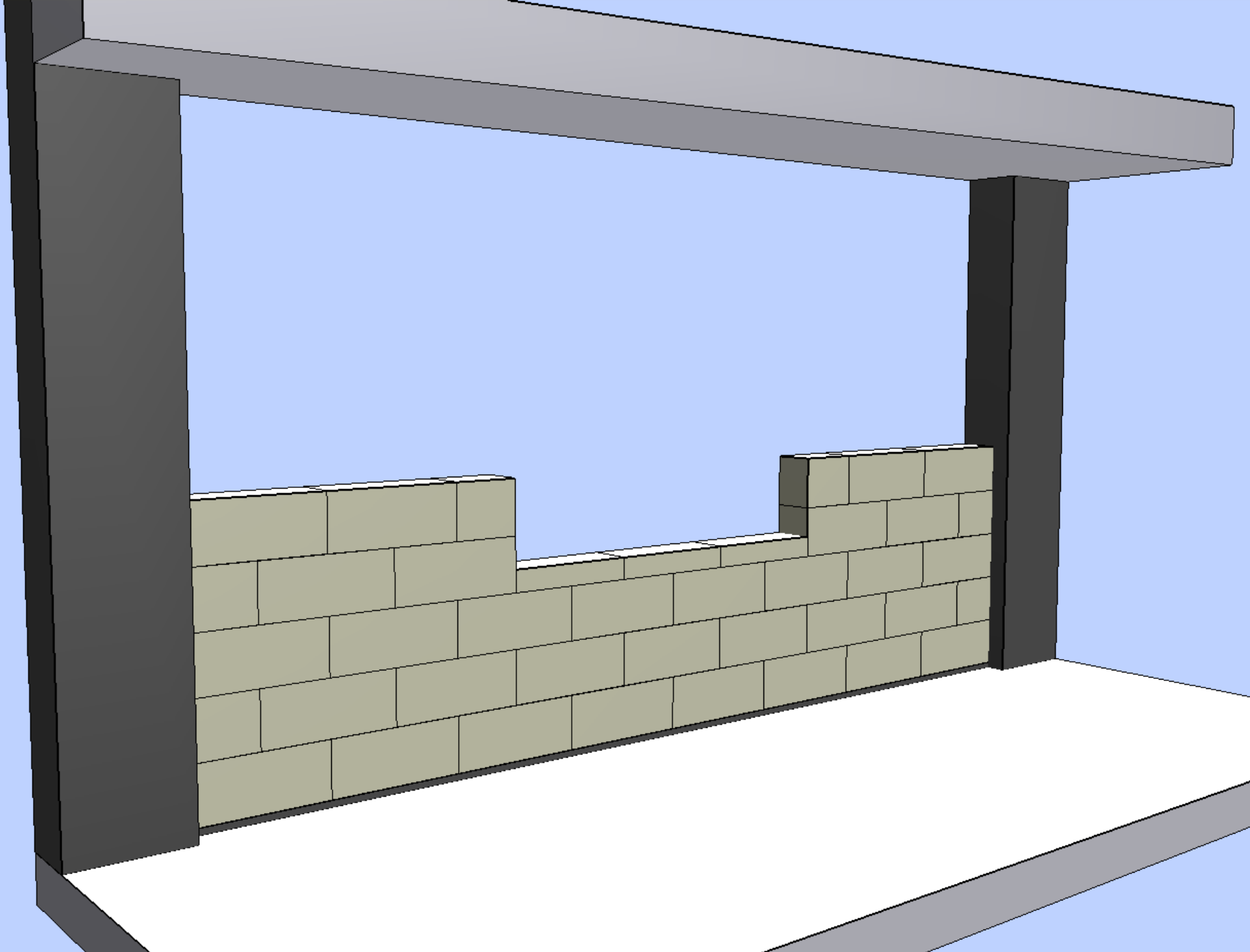


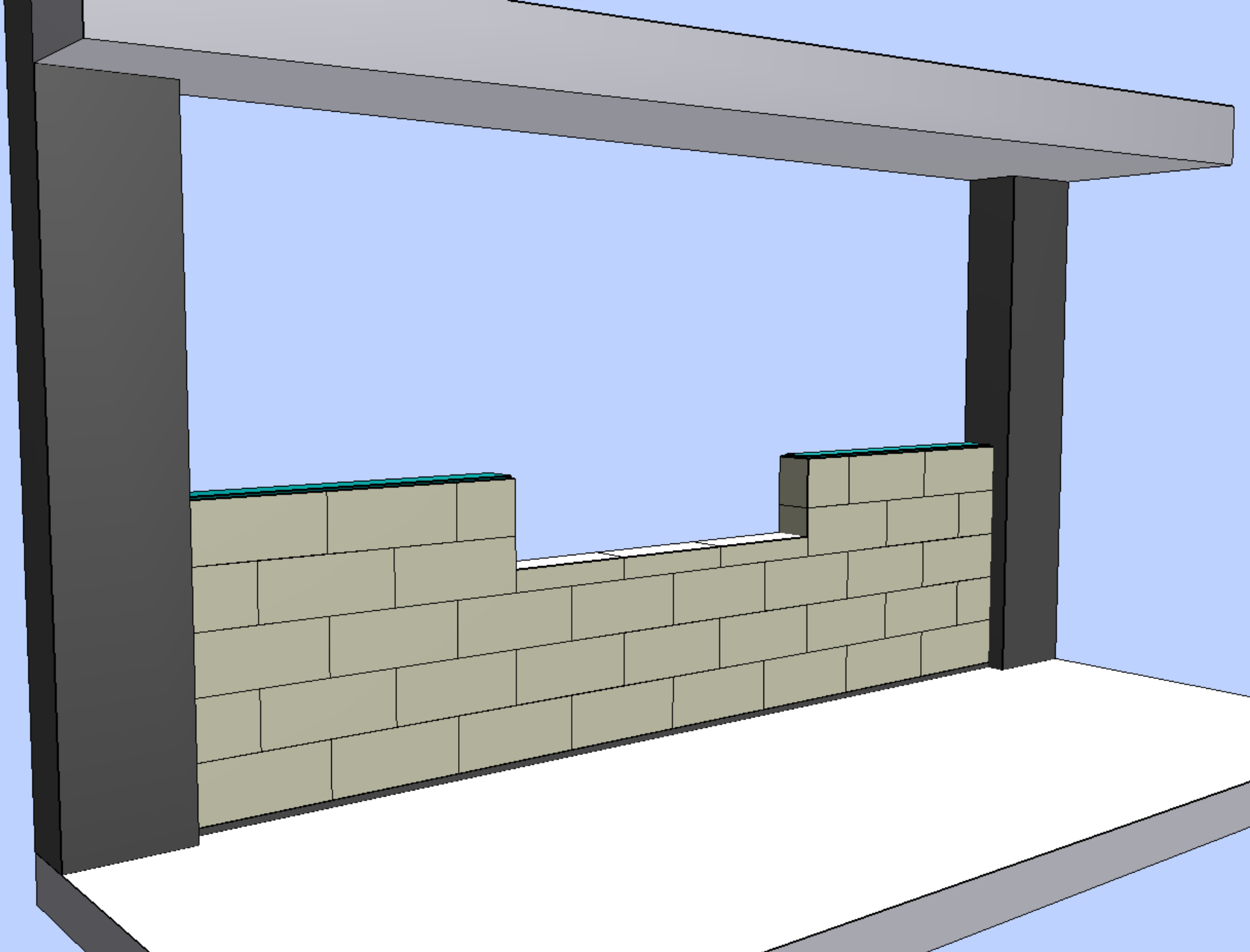


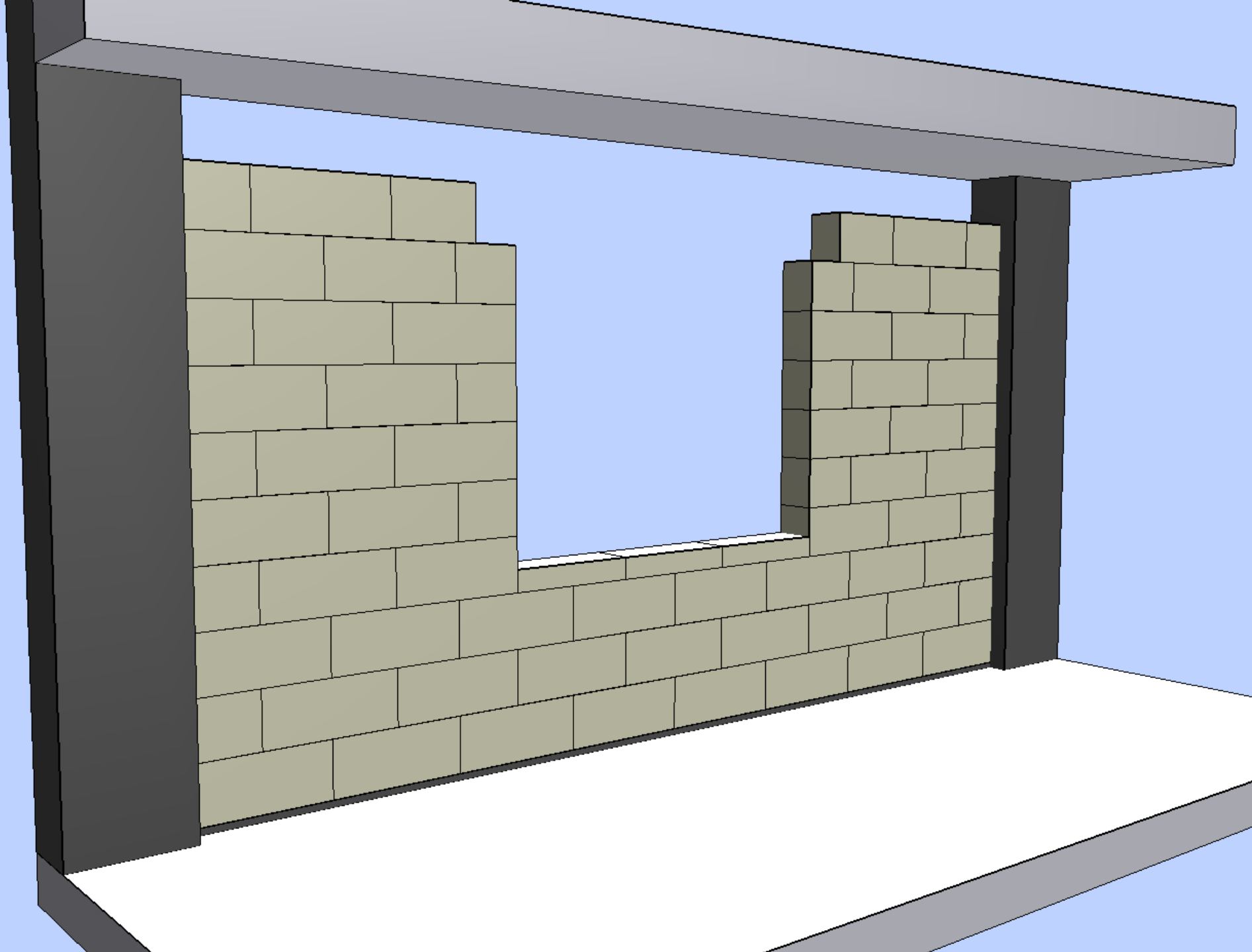


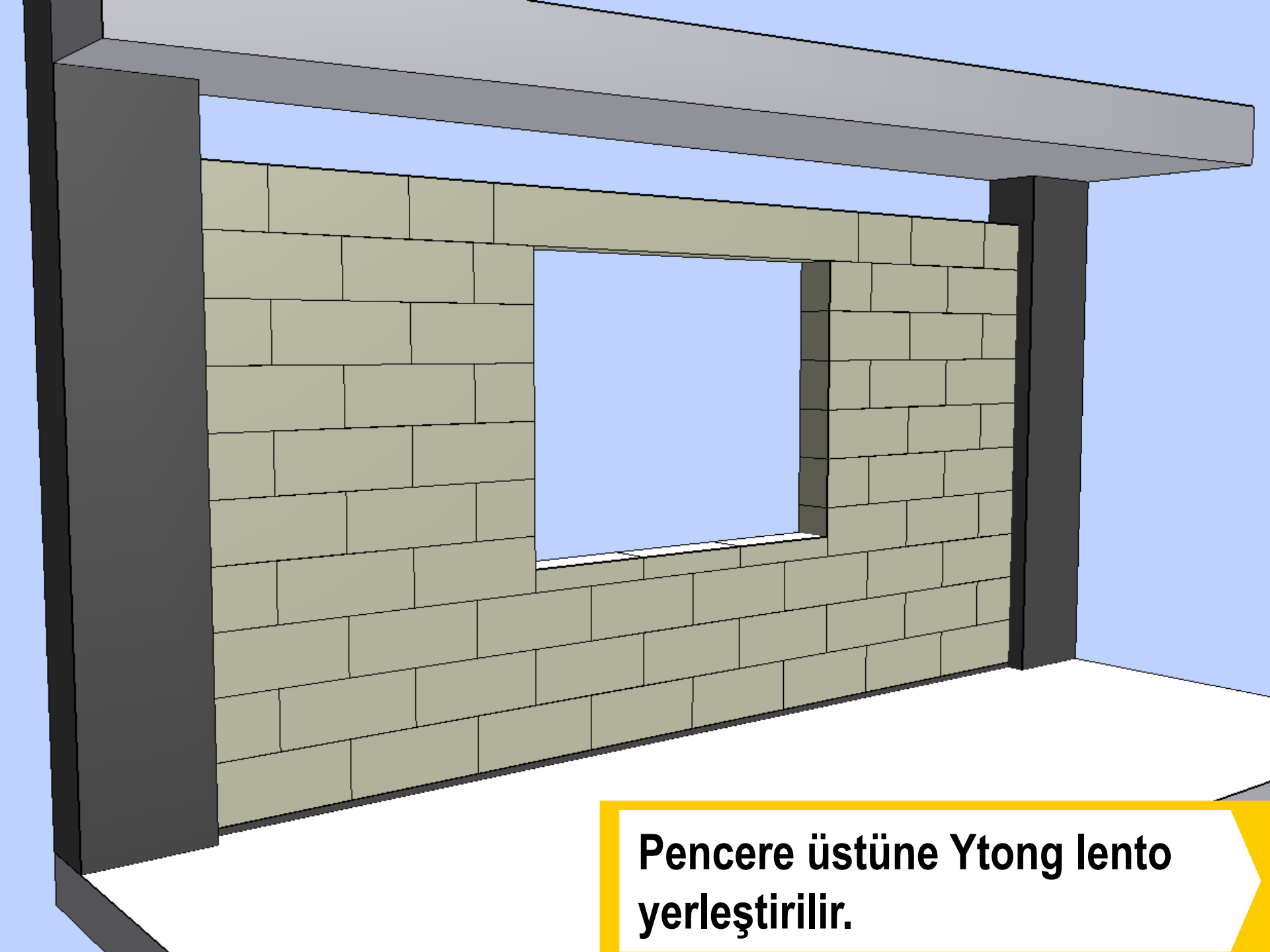
Parapet yüksekliğini sağlamak için kesilen küçük parçalar yerlerine konur.



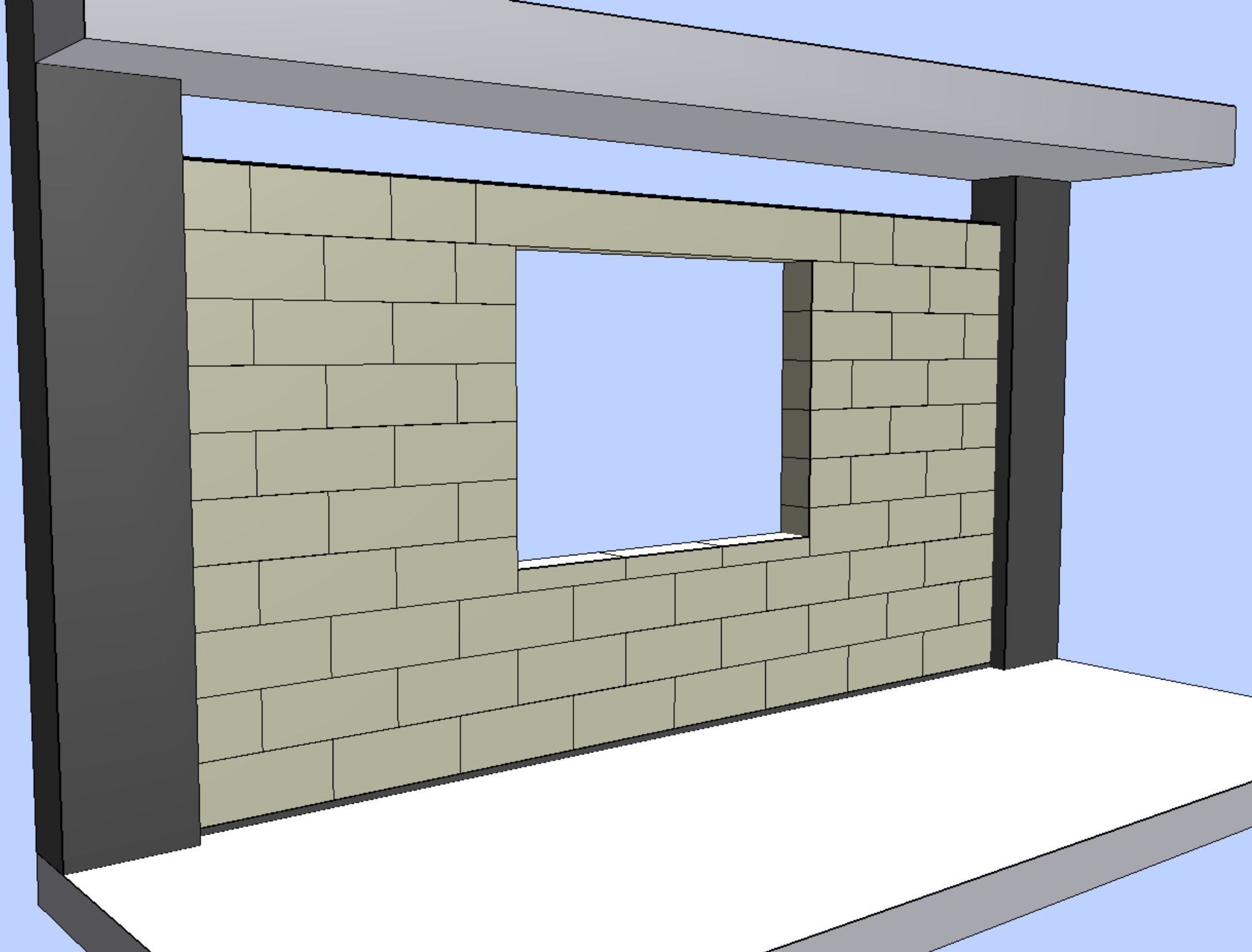


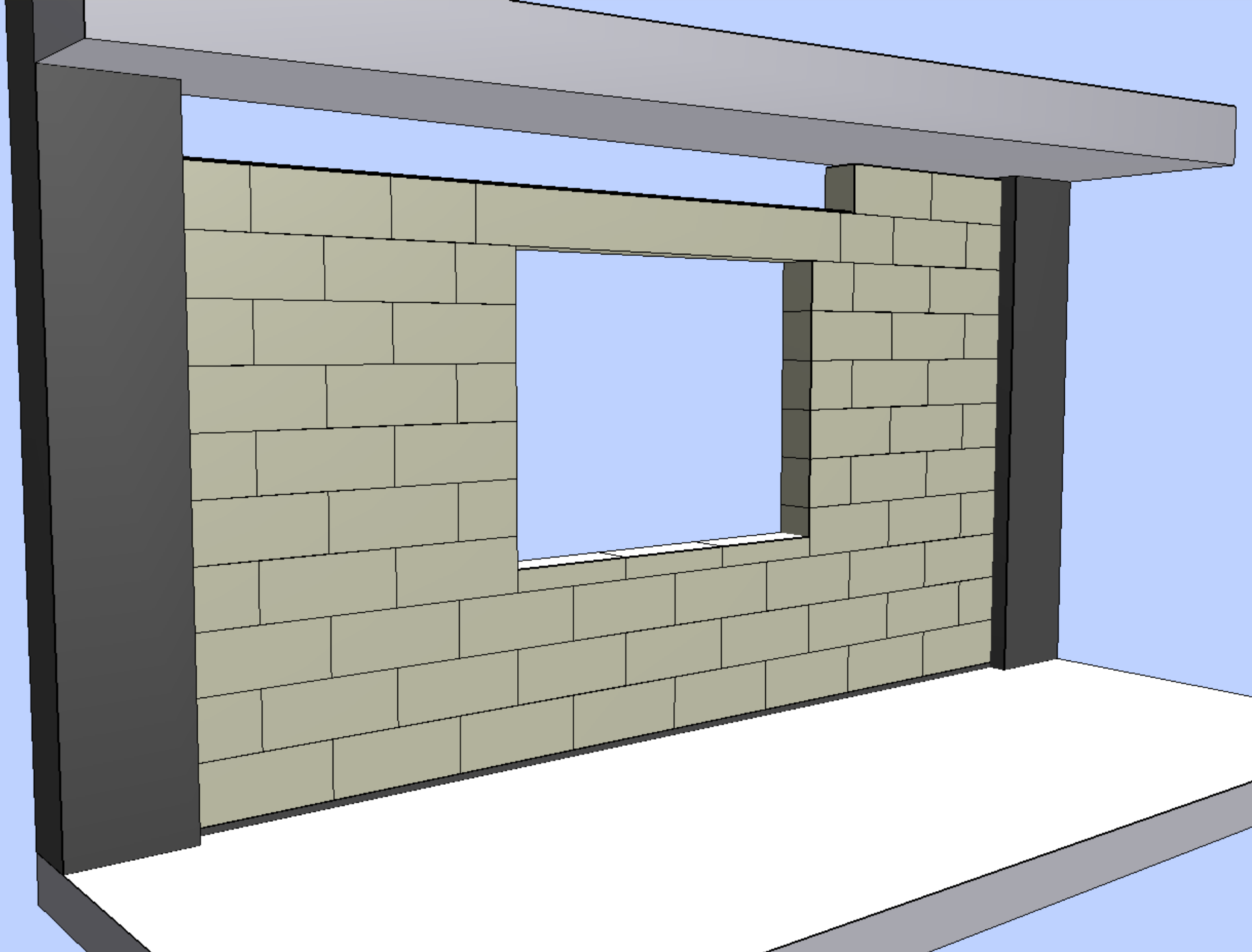


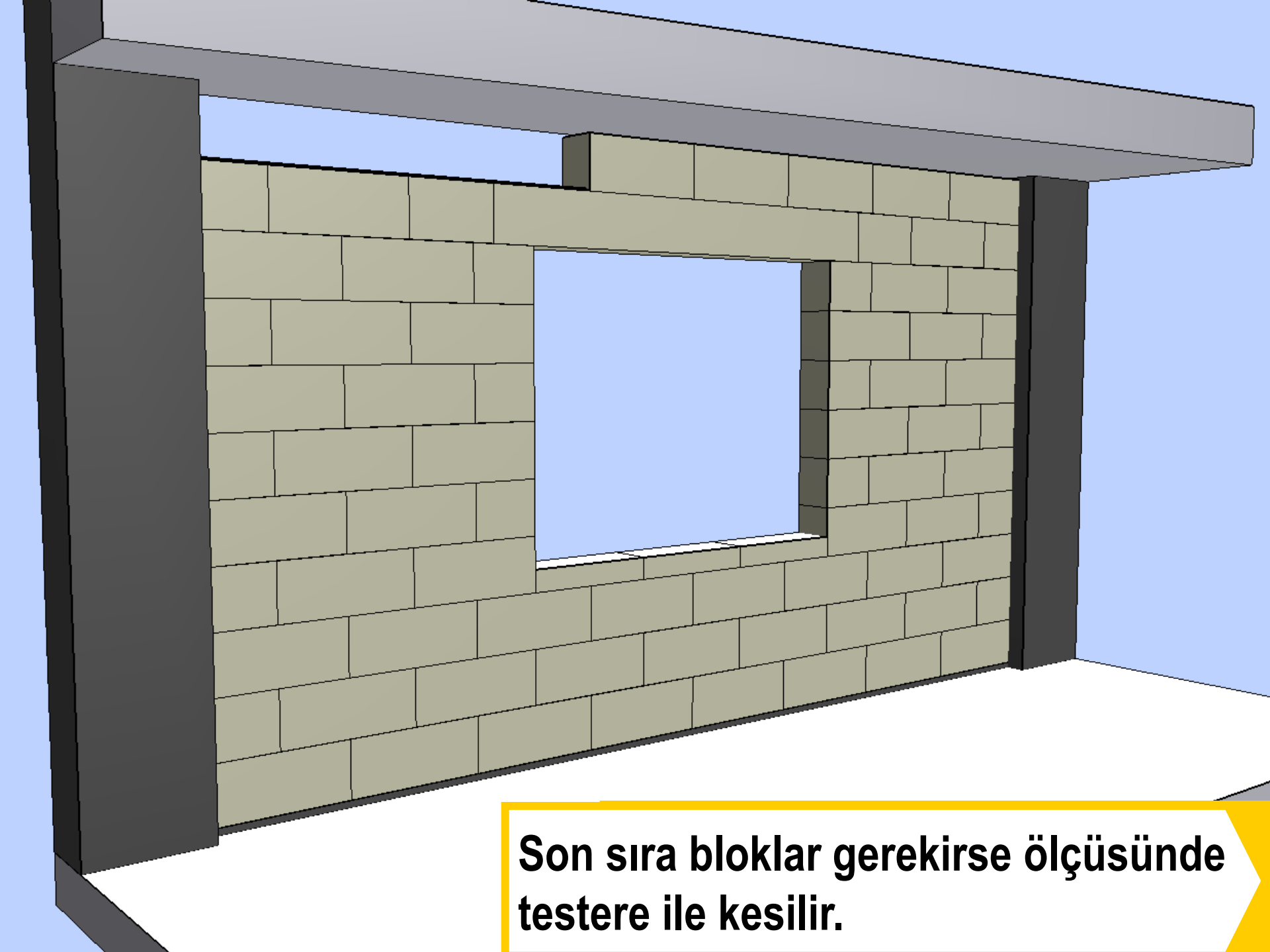




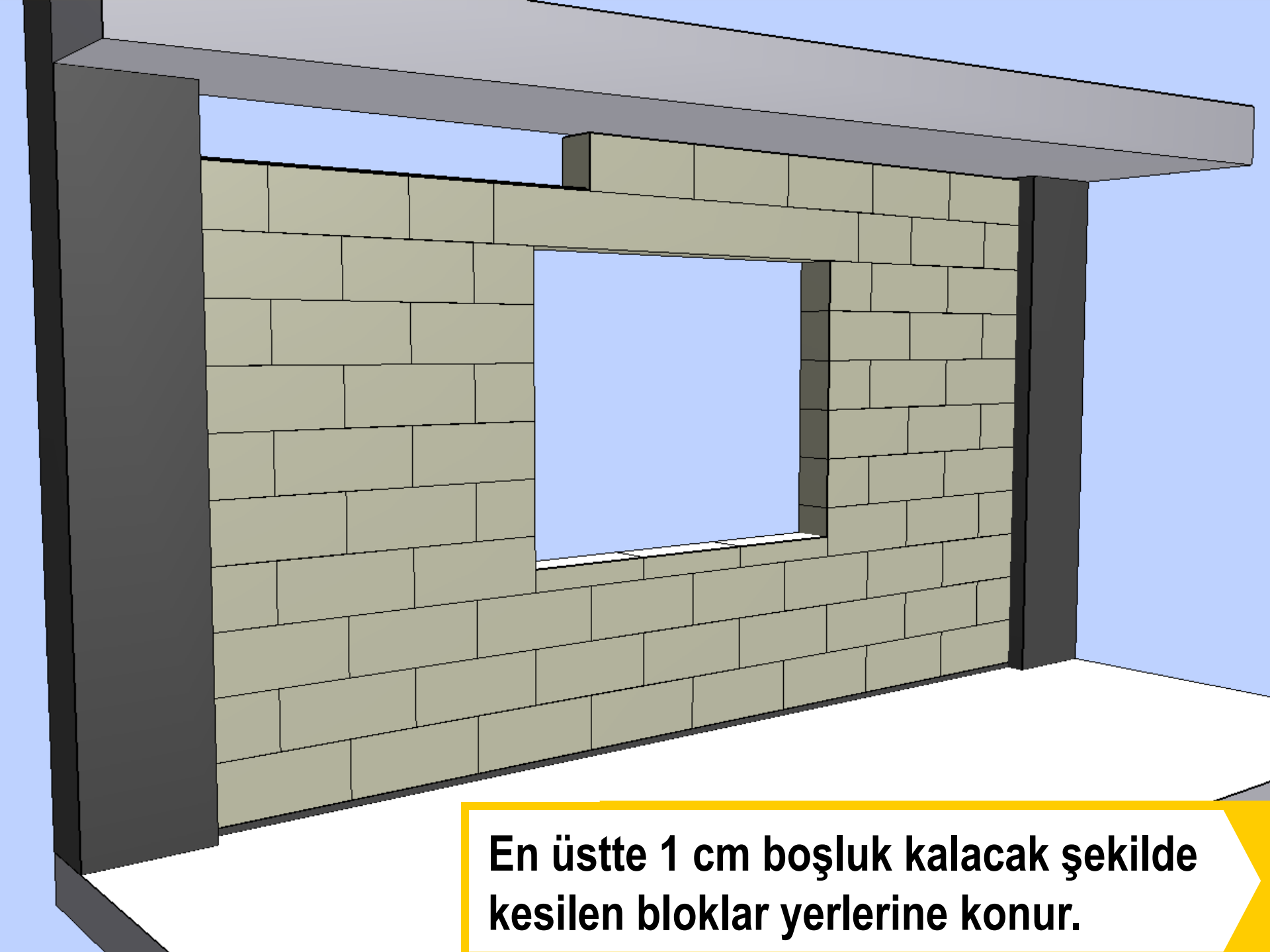
**Pencere üstüne Ytong lento
yerleştirilir.**



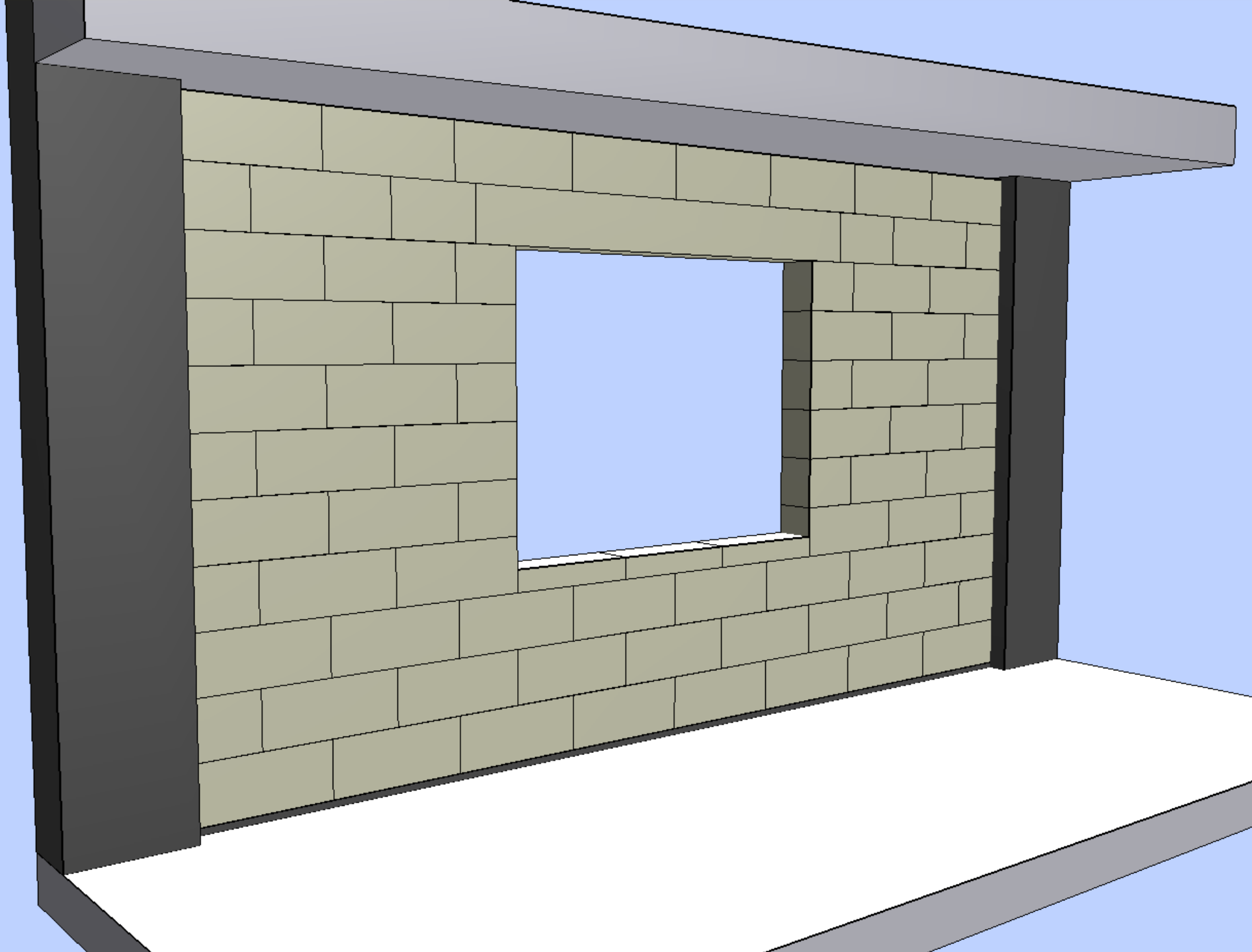


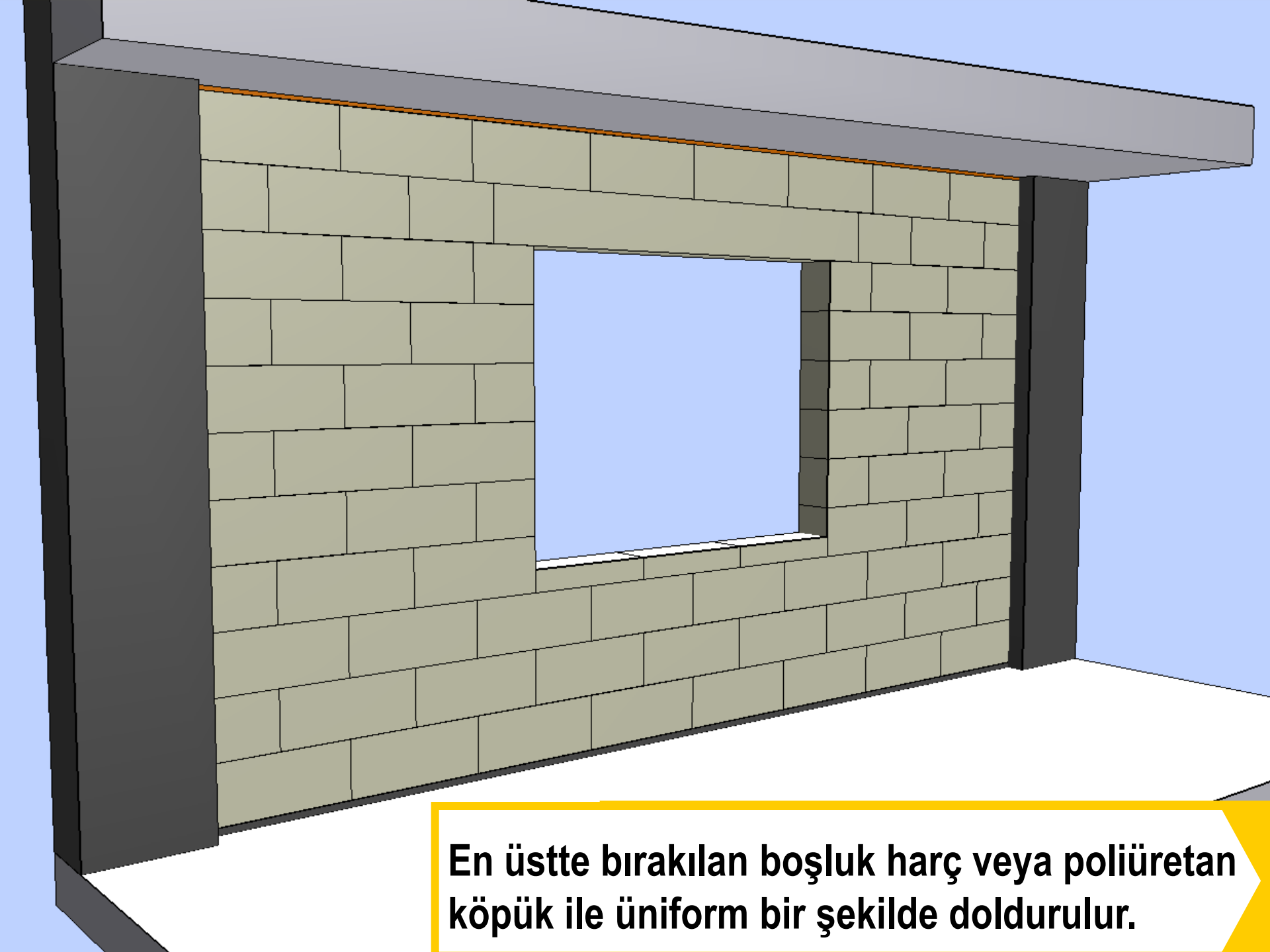


Son sıra bloklar gerekirse ölçüsünde testere ile kesilir.

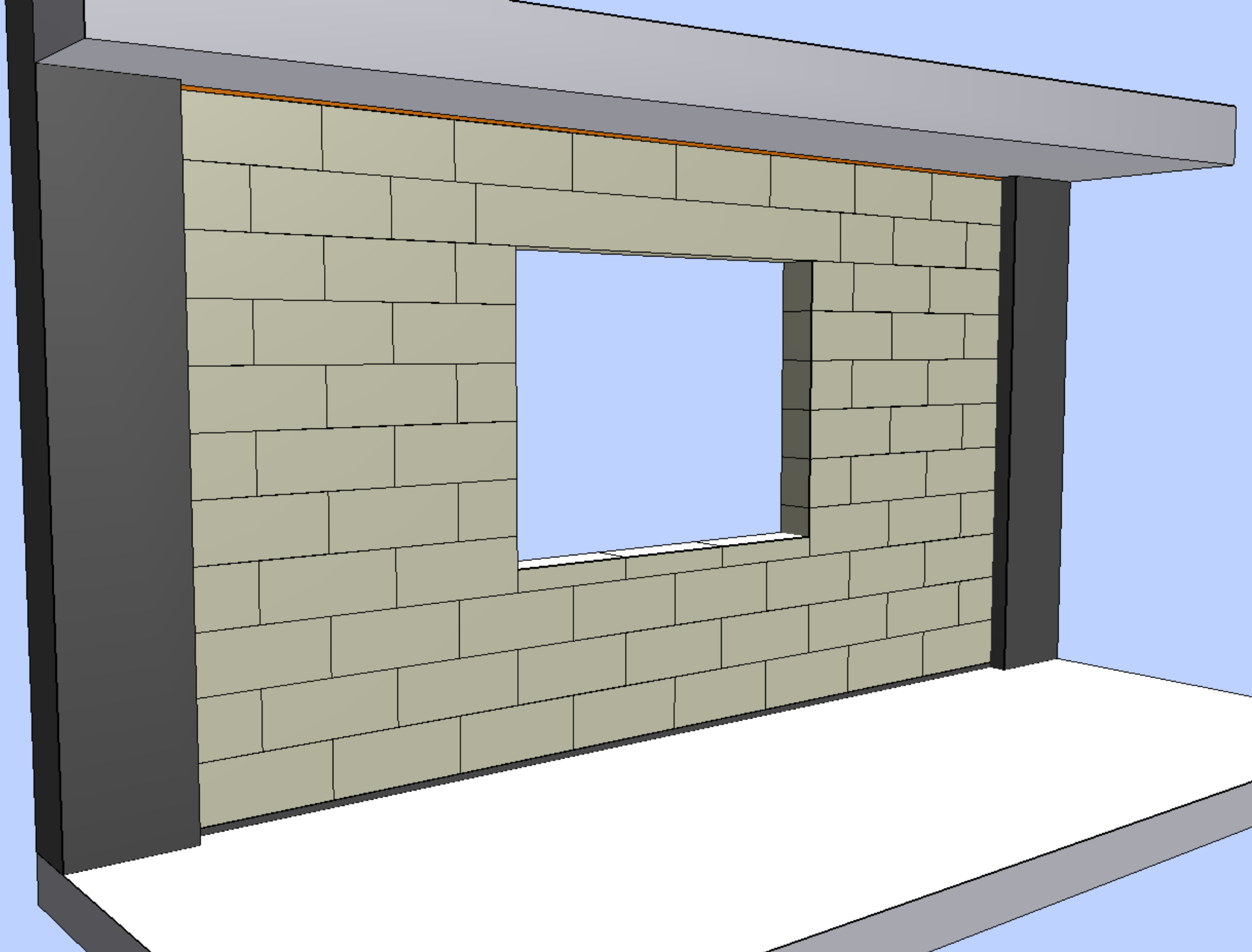


En üstte 1 cm boşluk kalacak şekilde kesilen bloklar yerlerine konur.





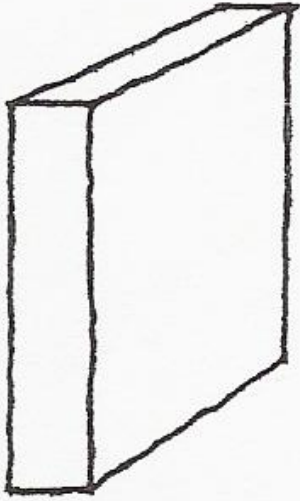
En üstte bırakılan boşluk harç veya poliüretan köpük ile üniform bir şekilde doldurulur.



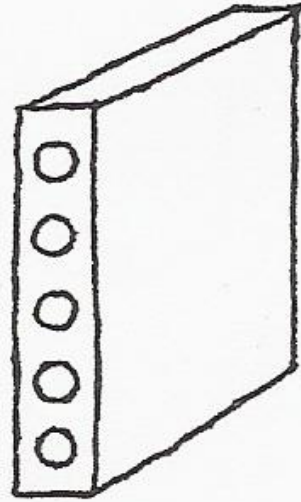
ALÇI DUVARLAR

- **Alçı Bloklarla Üretilen Duvarlar**
 - Küçük boyutlu bloklar
 - Kat yüksekliğindeki bloklar
- **Alçı Levhalarla Üretilen Duvarlar**
 - Levhaları birbirine yapıştırma
 - Kaset dolgulu panolar
 - Metal ya da ahşap dikmeli duvar kuruluşu

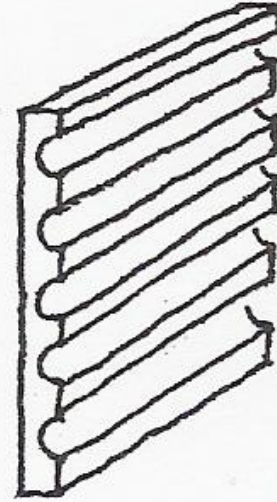
ALÇI DUVARLAR - Alçı Bloklar



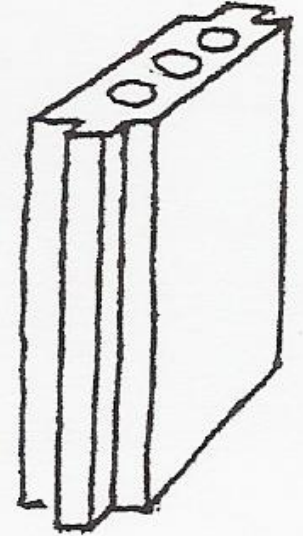
dolu



boşluklu



yarım



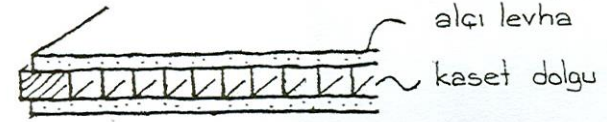
boşluklu
geçmeli

ALÇI DUVARLAR - Alçı Levhalar

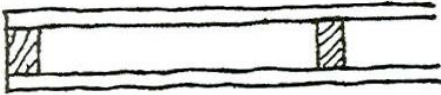
Levhaları birbirine yapıştırma



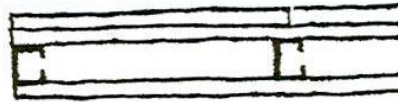
Kaset Dolgulu Panolar



Metal ya da Ahşap Dikmeli Duvarlar



ahşap dikme



metal dikme



ALÇI LEVHA DUVARLAR

Tek dikmeli konstrüksiyon-tek katlı kaplama



1. Tavan Profili yerleştirildikten sonra taban profili dikey bir profil ve su terazisi kullanılarak yerleştirir.



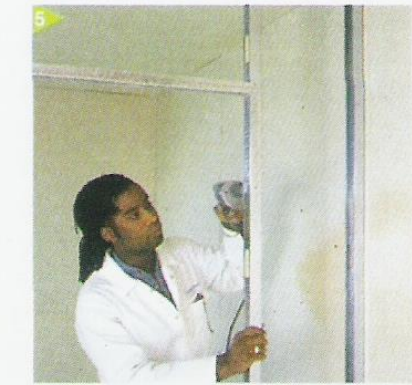
2. Knauf "C" Profil sabitlenerek bölme duvar konstrüksiyonu oluşturulmaya başlanır.



3. Knauf "C" Profillerin yerleştirilmesi.



4. Knauf "U" Profili daha fazla direnç için kapı boşluklarında kesilir ve bükülür.



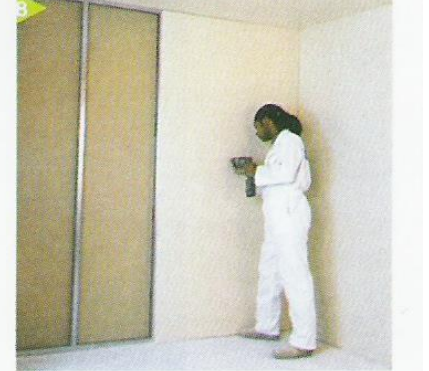
5. Kapı lentosunu oluşturmak için Knauf "U" Profili kesilir ve bükülür.



6. "U" Profilin eğilmesi ve profillere sabitlenmesi



7. Gerekğinde kapı çerçevesinde daha fazla direnç için "C" Profil içine ahşap yerleştirilir.



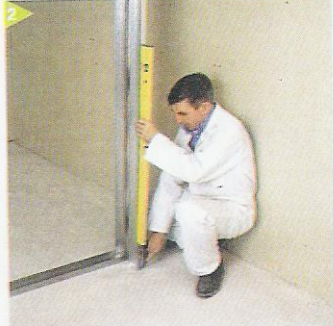
8. Knauf Profillere Knauf Alçıpan monte edilmesi.

ALÇI LEVHA DUVARLAR

Çift dikmeli konstrüksiyon- iki katlı kaplama



1. Knauf "U" Profillere Knauf İzolasyon Bandı yapıştırılması



2. Tavan profili yerleştirildikten sonra taban profili dikey bir profil ve su terazisi kullanılarak yerleştirilir.



3. Knauf "C" Profillerin dikeyde 1500 mm aks aralıklarla Knauf Sabitleviri Profil ile tesbit edilmesi



4. Knauf Herkül Alçıpan'ın Knauf "C" Profillerine yatay olarak montajı



5. Knauf "C" Profillerin arasına izolasyon malzemesi yerleştirilmesi



6. Knauf Herkül Alçıpan'ın Knauf "C" Profillerine yatay olarak montajı



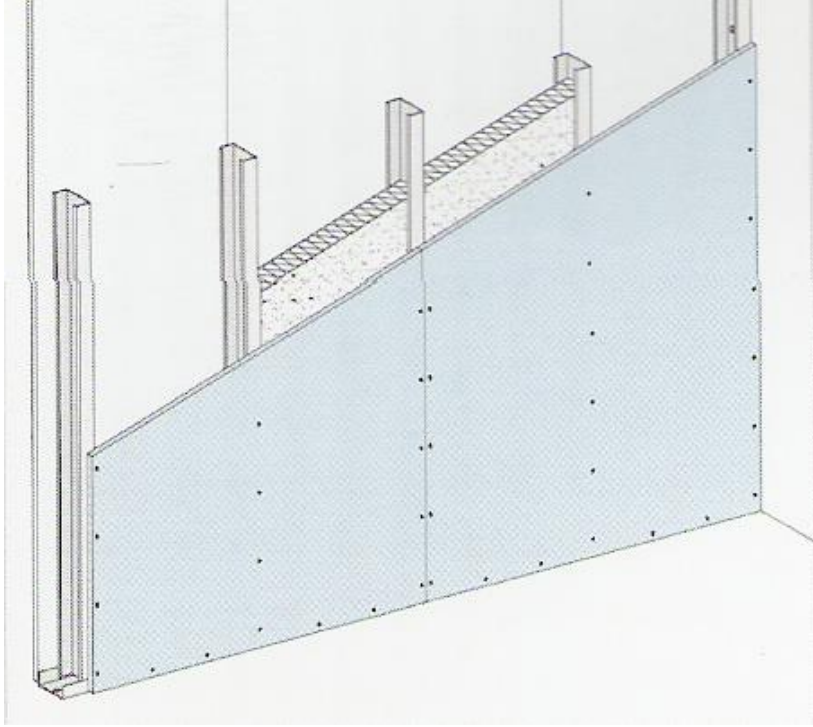
7. Knauf Alçıpan'ın Knauf "C" Profile montajı



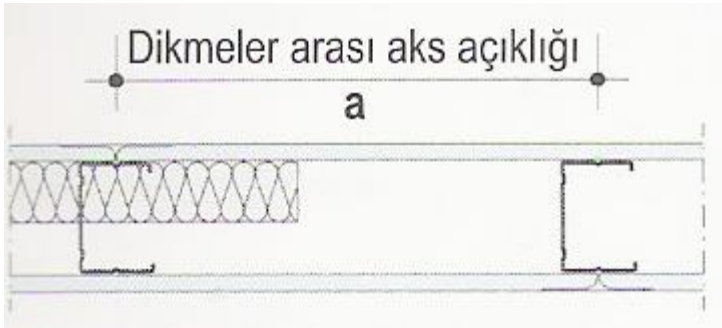
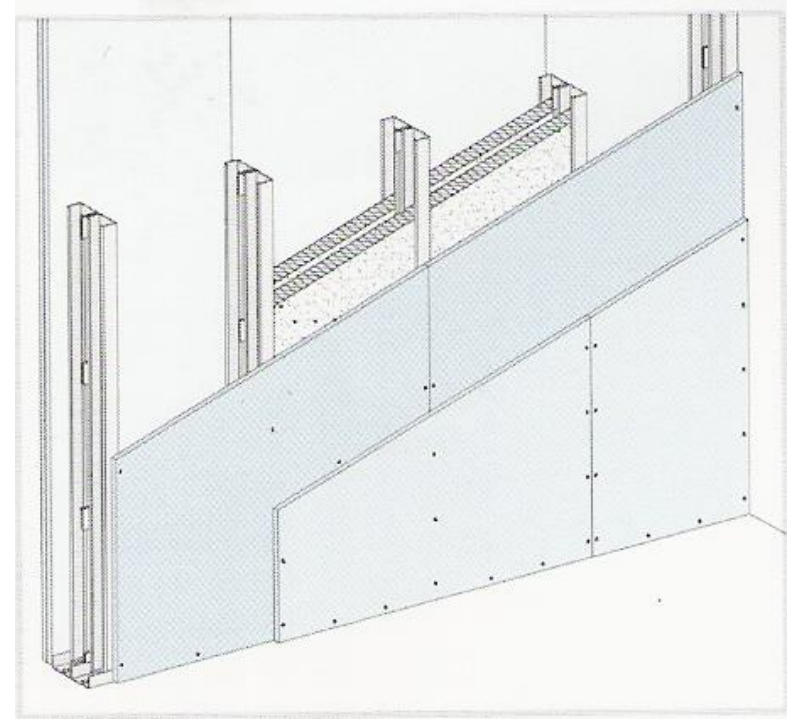
8. Alçıpanların şaşırtmalı kaplanması

ALÇI LEVHA DUVARLAR

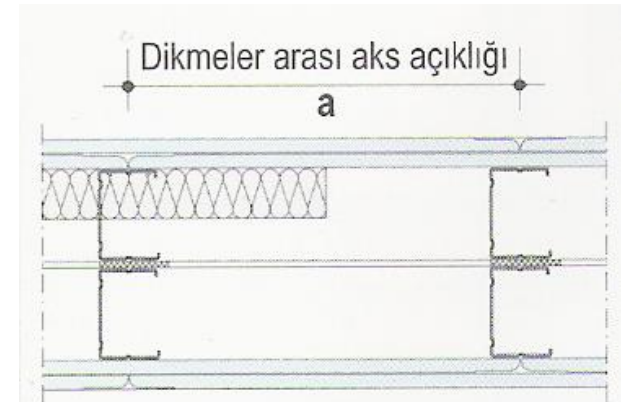
Tek dikmeli konstrüksiyon-
tek katlı kaplama



Çift dikmeli konstrüksiyon-
iki katlı kaplama

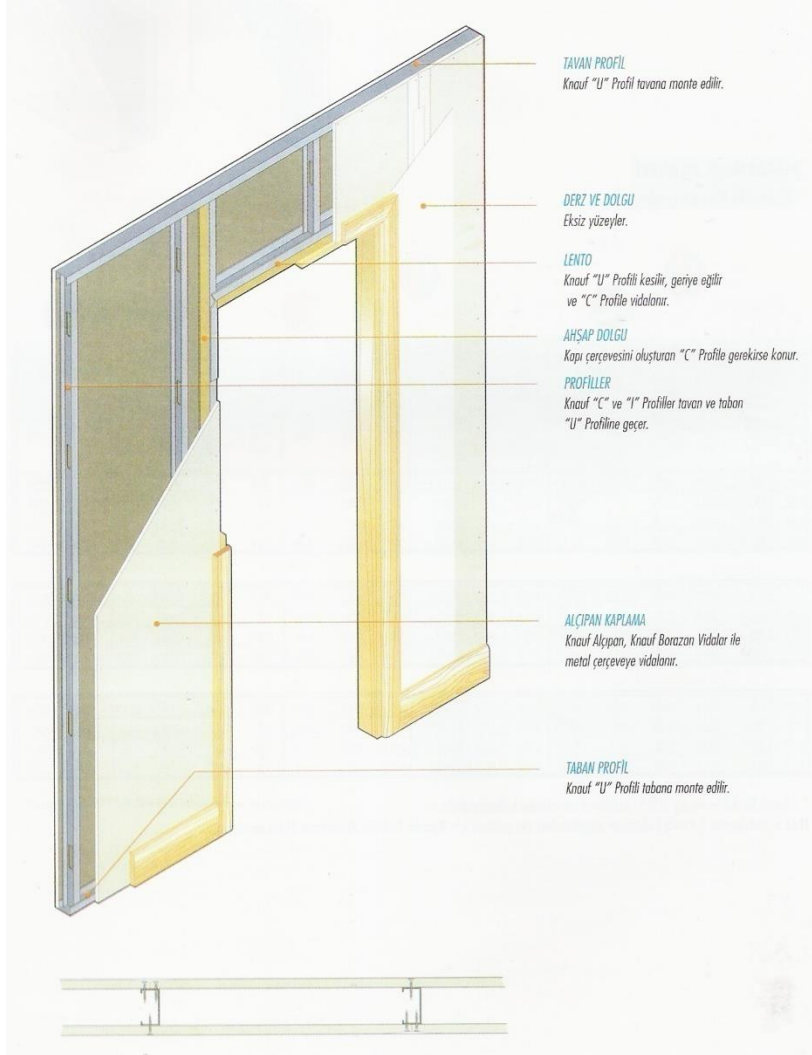


Knauf

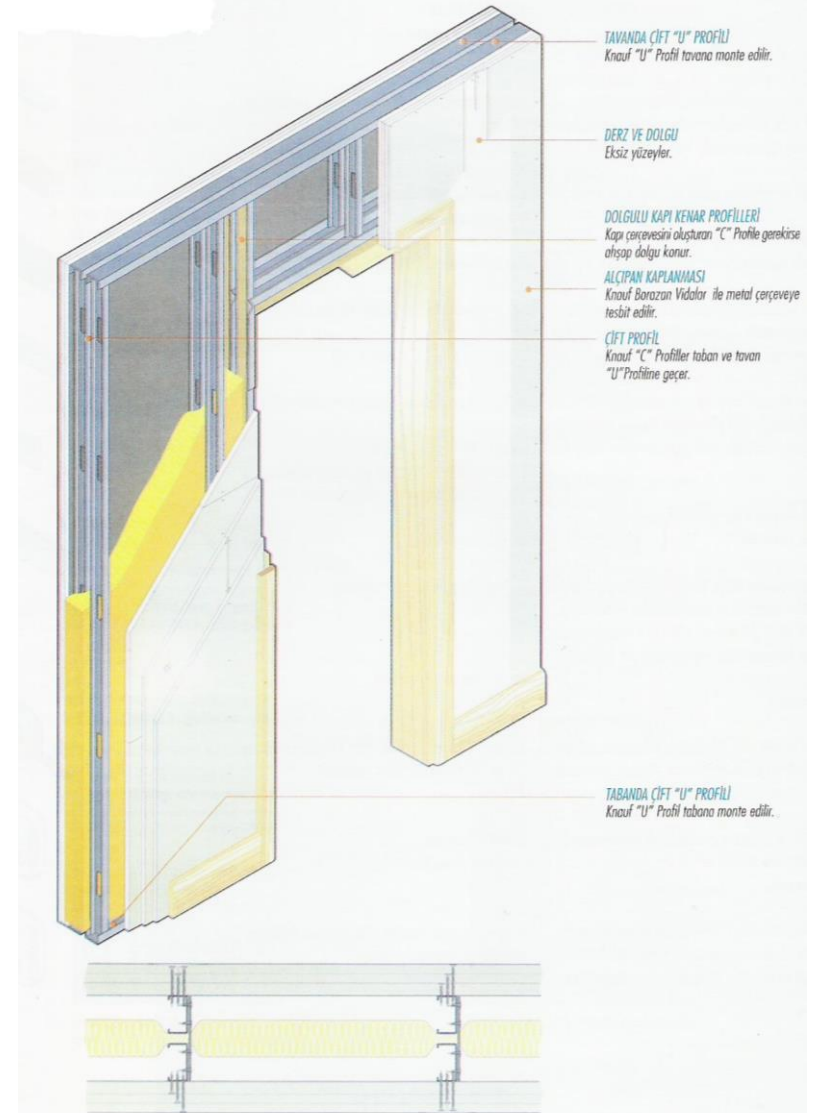


ALÇI LEVHA DUVARLAR

Tek dikmeli konstrüksiyon-
tek katlı kaplama



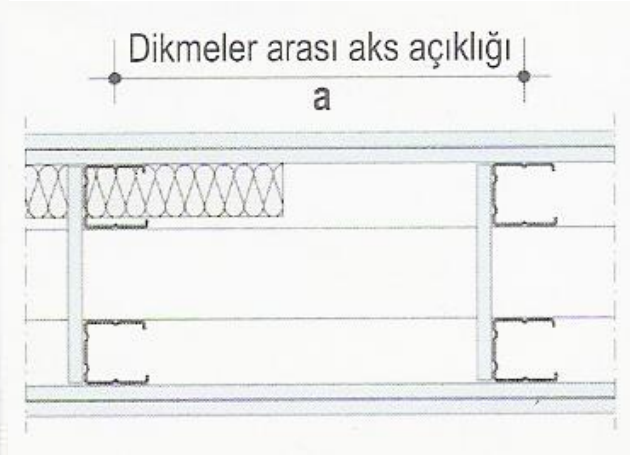
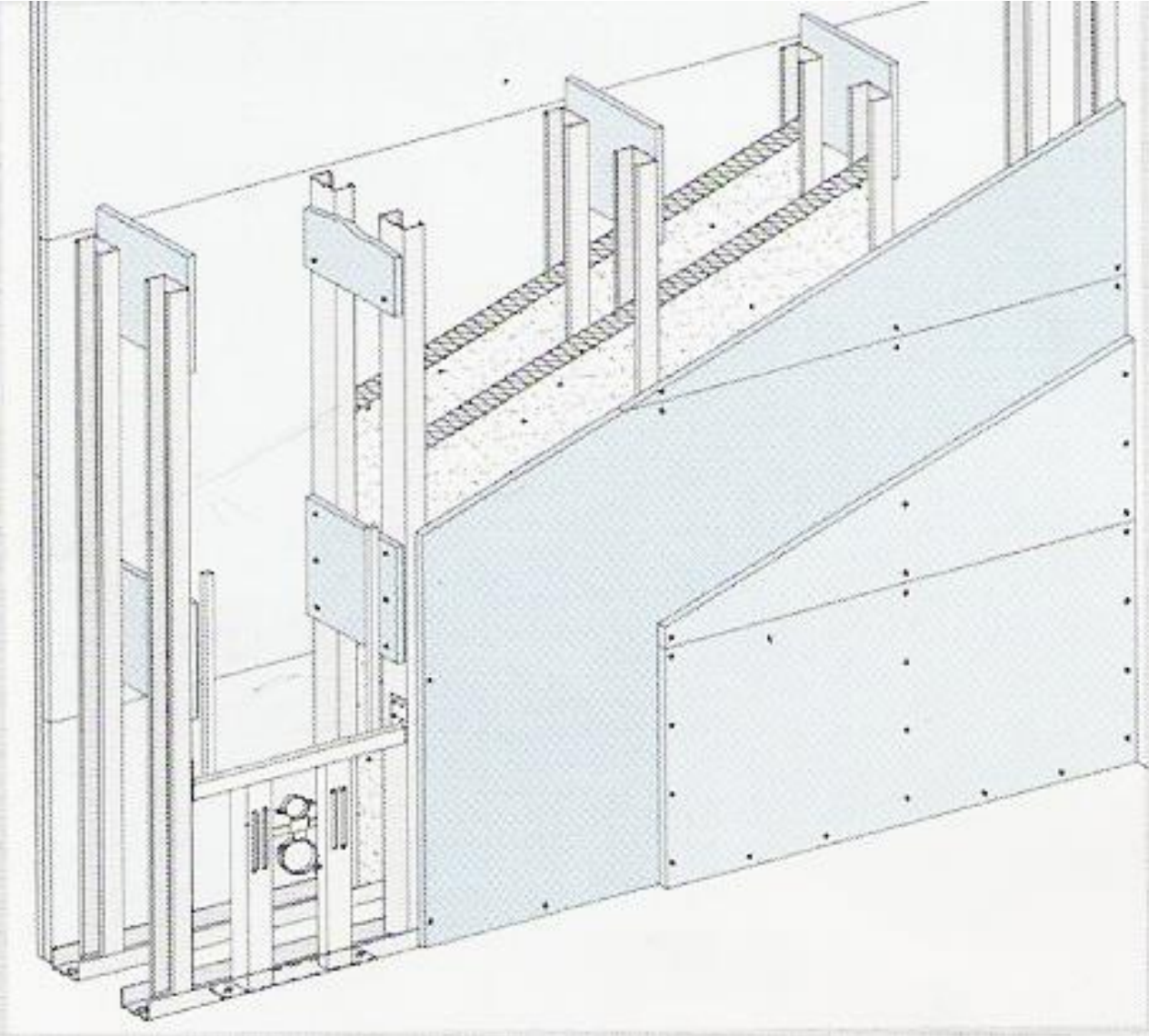
Çift dikmeli konstrüksiyon-
üç katlı kaplama



ALÇI LEVHA DUVARLAR

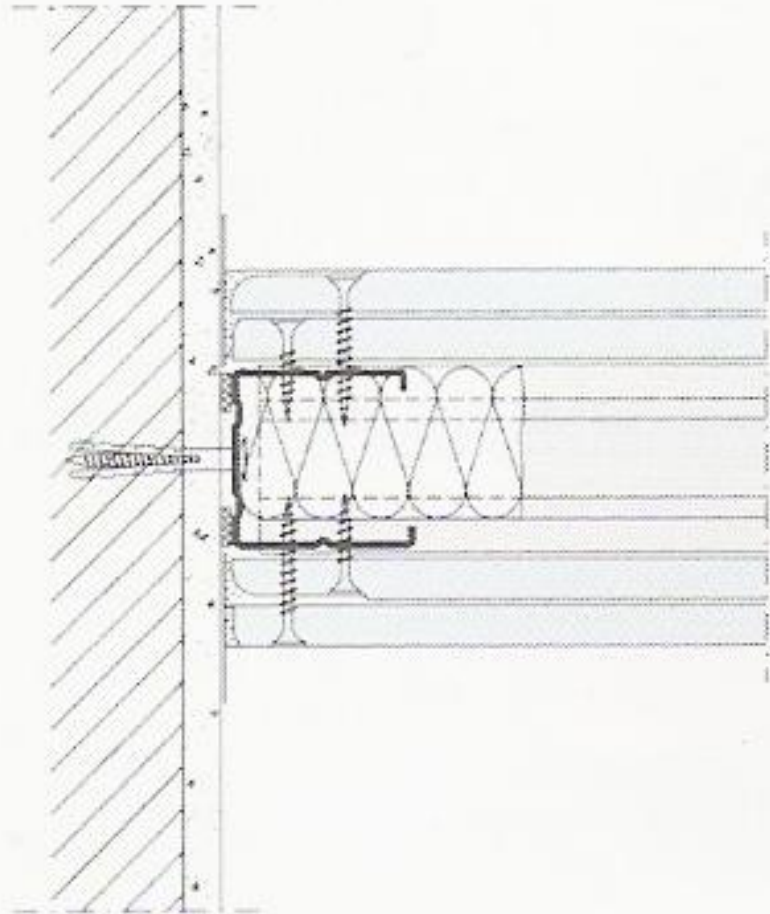
TESİSAT DUVARI

Çift dikmeli konstrüksiyon-çift katlı kaplama



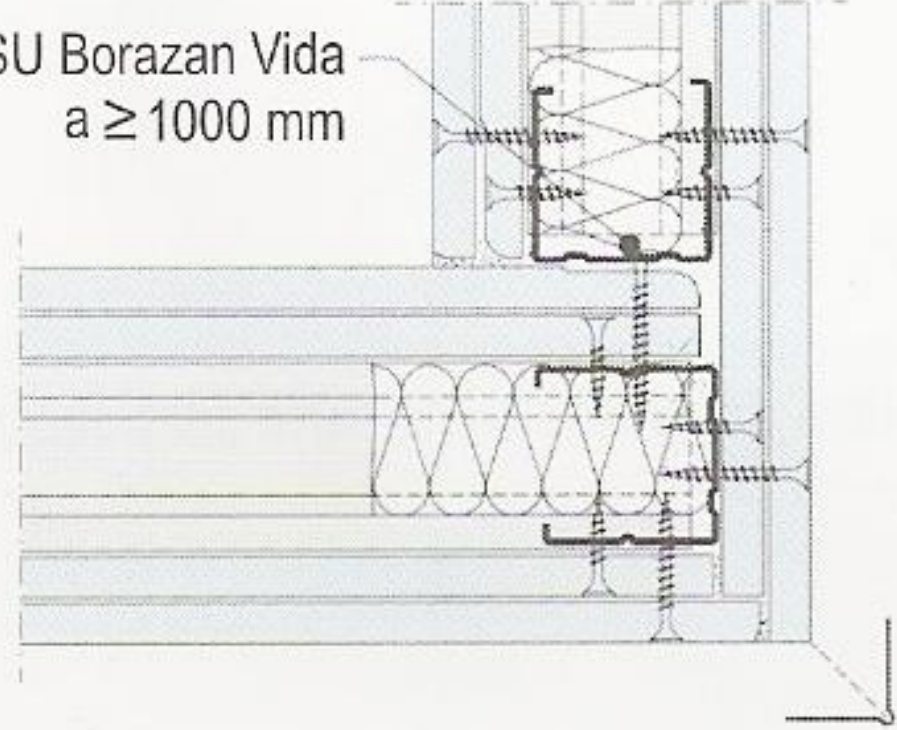
Knauf

ALÇI LEVHA DUVARLAR



Masif Duvara Bağlantı

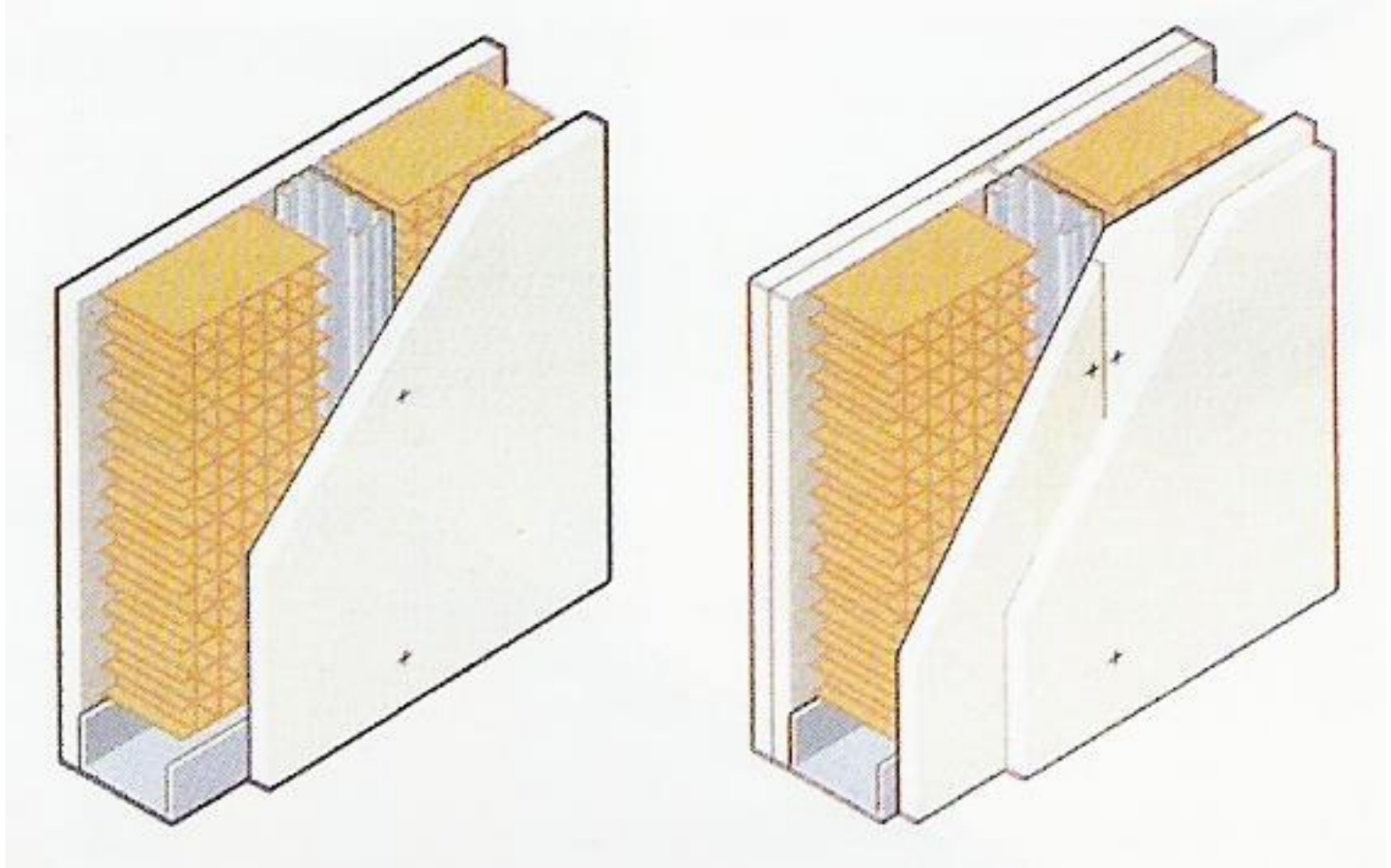
SU Borazan Vida
 $a \geq 1000$ mm



Köşe Uygulama

ALÇI LEVHA DUVARLAR

Petek Dolgu

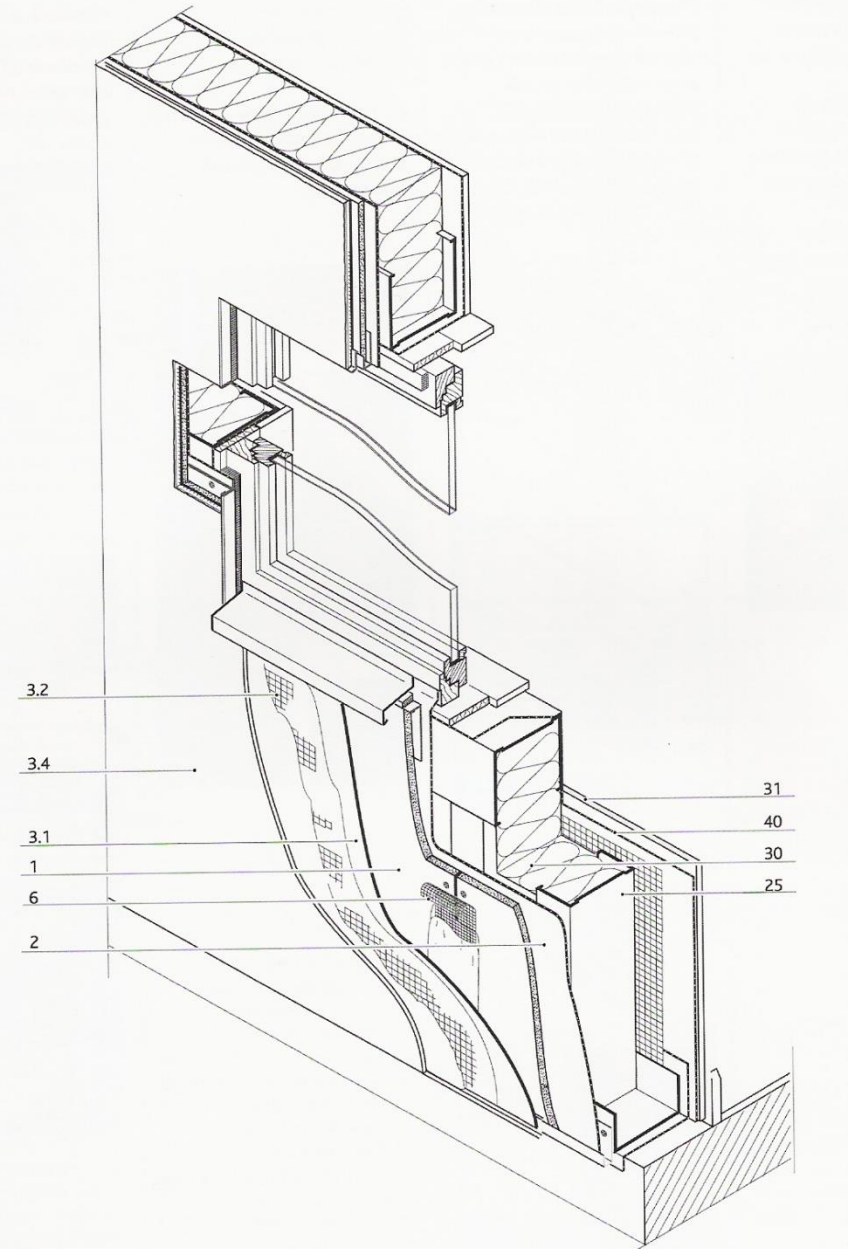


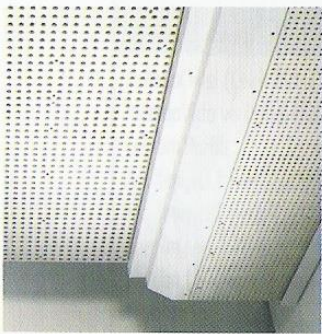
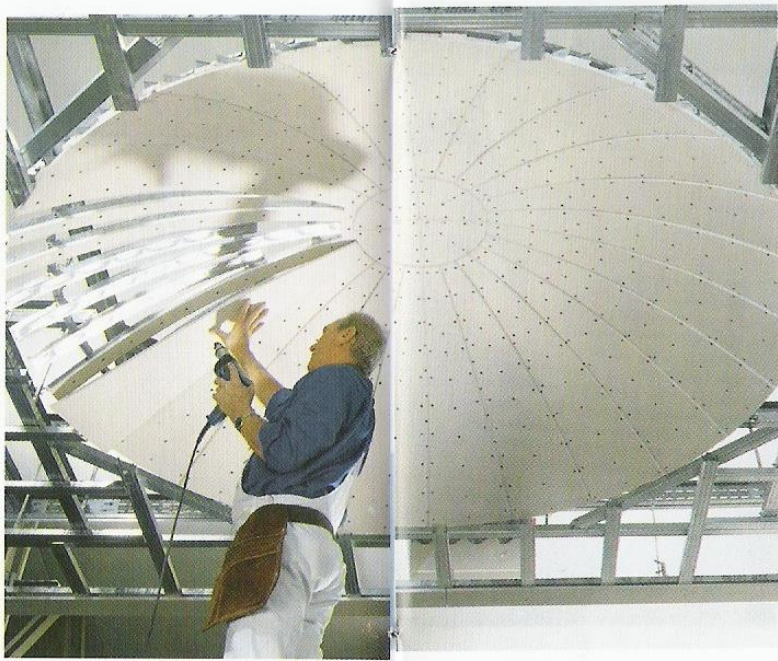
Knauf

ALÇI LEVHA DUVARLAR

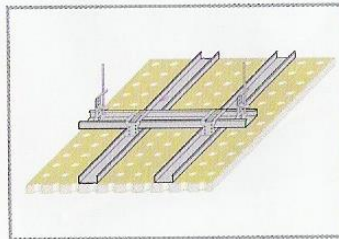
Aquapanel Dış Cephe Sistemi

- 1 AQUAPANEL®
- 2 AQUAPANEL® Tyvek® Buhar Dengeleyici
- 3.1 AQUAPANEL® Akrilik Dış Cephe Harcı (Dış cephe sıvası olarak)
- 3.2 AQUAPANEL® Sıva Fılesı
- 3.4 Boya veya son kat
- 6 AQUAPANEL® Akrilik Dış Cephe Harcı (derz dolgusu olarak) ve AQUAPANEL® Derz Bandı
- 25 Knauf Metal Alt Konstrüksiyon
- 30 Yalıtım malzemesi
- 31 Knauf Alçıpan®
- 40 Buhar bariyeri/Rüzgar geçirmezlik tabakası





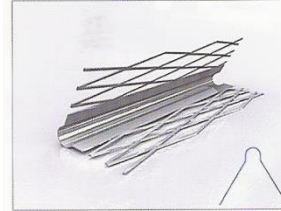
Ses yutucu tavan



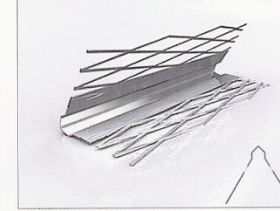
D 127 delikli tavan detayı

Knauf

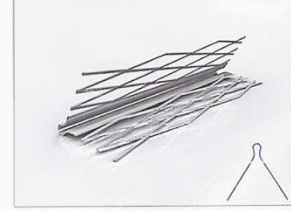
Profiller



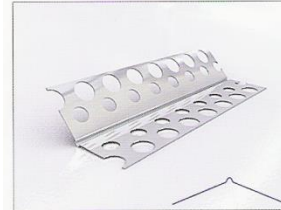
Sıva Köşe Profili - U Kesit
Genişlik : 28 x 28 mm.
33 x 33 mm.
Kalınlık : 0,50 mm.
Malzeme : Galvanize Çelik



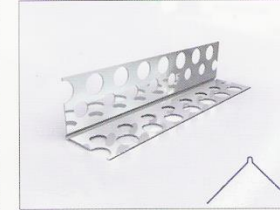
Sıva Köşe Profili - V Kesit
Genişlik : 30 x 30 mm.
35 x 35 mm.
Kalınlık : 0,50 mm.
Malzeme : Galvanize Çelik



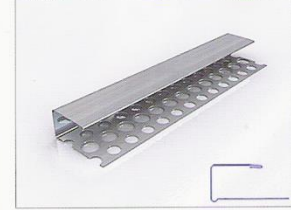
Sıva Köşe Profili - Y Kesit
Genişlik : 28 x 28 mm.
33 x 33 mm.
Kalınlık : 0,50 mm.
Malzeme : Galvanize Çelik



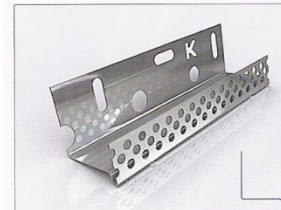
Delikli Köşe Profili - 135°
Genişlik : 23 x 23 mm.
25 x 25 mm.
Kalınlık : 0,35 ve 0,40 mm.
Malzeme : Alüminyum, Galvanize Çelik



Delikli Köşe Profili - 90°
Genişlik : 23 x 23 mm.
25 x 25 mm.
Kalınlık : 0,35 ve 0,40 mm.
Malzeme : Alüminyum, Galvanize Çelik



Delikli Kenar Bitim Profili
Genişlik : 19 x 14,5 x 12,8 x 2 mm.
Kalınlık : 0,40 mm.
Malzeme : Alüminyum, Galvanize Çelik



Subasman Profili
Genişlik : 20 x 32 x 35 mm.
20 x 42 x 35 mm.
20 x 52 x 35 mm.
20 x 62 x 35 mm.
Kalınlık : 0,70 mm.
Malzeme : Alüminyum



Sıva Fılesı
Genişlik : 100 cm.
Boy : 50 m.
Ağırlık : 160 gr/m²

KNAUF ARTIFEX

CAM DUVARLAR

1.Küçük boyutlu parçalarla üretilmiş duvarlar

2.Levhalarla üretilmiş duvarlar

Düz levhalarla üretilmiş duvarlar

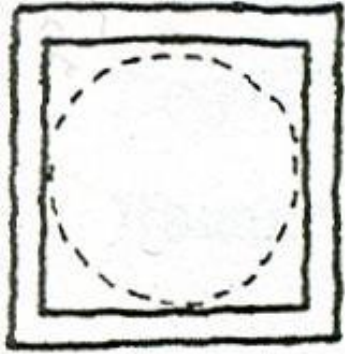
- Tek yüzeyli levhalar

- Çok yüzeyli levhalar

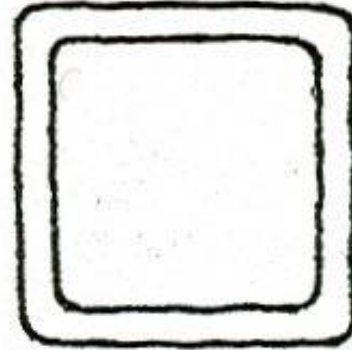
Profilli levhalarla üretilmiş duvarlar

Cam takı cephe duvarlar

KÜÇÜK BOYUTLU PARÇALARLA ÜRETİLMİŞ DUVARLAR



küçük cam plak



cam tuğla



dolu cam blok



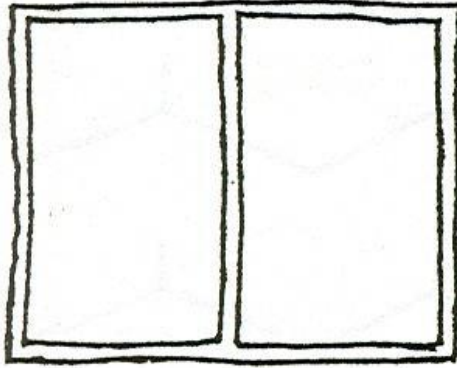
açık cam blok

LEVHALARLA ÜRETİLMİŞ DUVARLAR

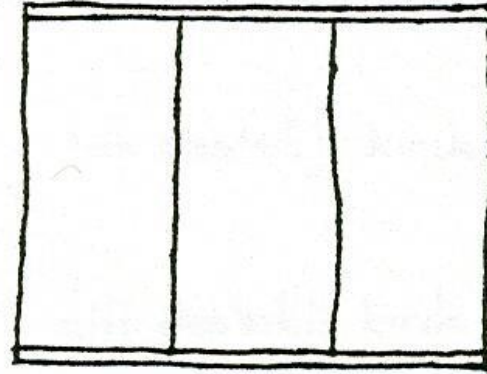
- **SAYDAM CAMLAR:** Dal, tavllanmış cam, pencere camı, parlatılmış cam, telli cam, yapışık katmanlı cam, ayrı katmanlı cam
- **YARI SAYDAM CAMLAR:** Heterojen hamurlu camlar, yüzeyi desenli cam, boyalı cam, hamuru boyalı cam
- **SAYDAMSIZ CAMLAR:** Kitlesi saydamsız, yüzeyi saydamsız katmanla örtülmüş, boyanmış, sırlanmış cam

DÜZ LEVHALARLA ÜRETİLMİŞ DUVAR

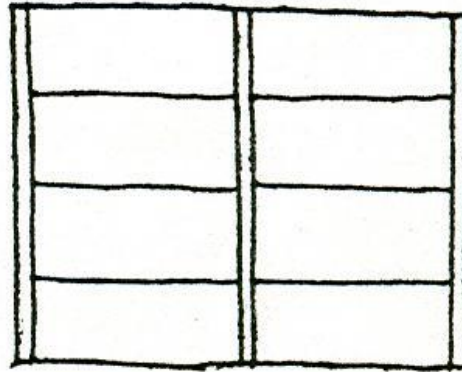
- Cam levhanın ayrı bir taşıyıcı ile uygulanması



çerçeve taşıyıcı



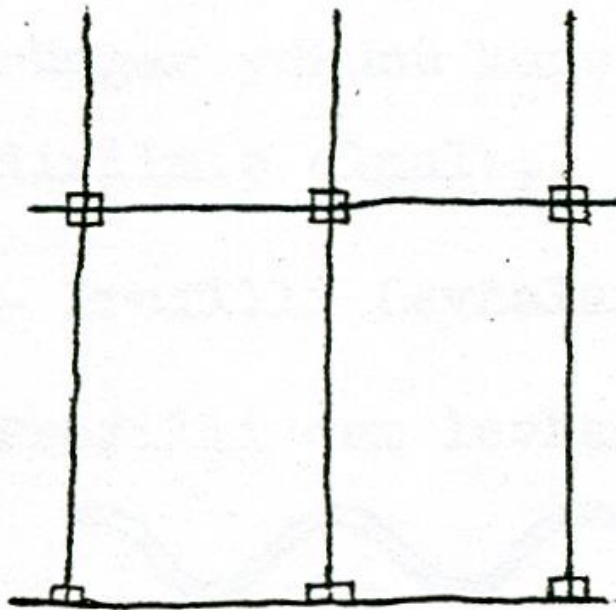
yatay taşıyıcı



düşey taşıyıcı

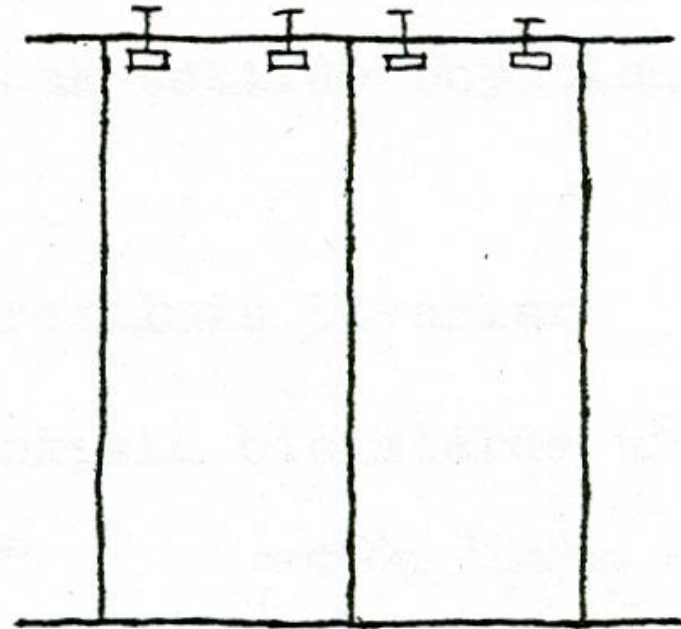
DÜZ LEVHALARLA ÜRETİLMİŞ DUVAR

- Özel bağlantı parçaları ile tutturma ya da asma



metal bağlantı

TUTTURMA

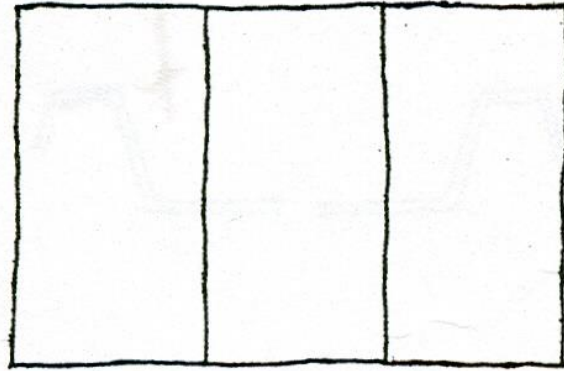


üstten asma

ASMA

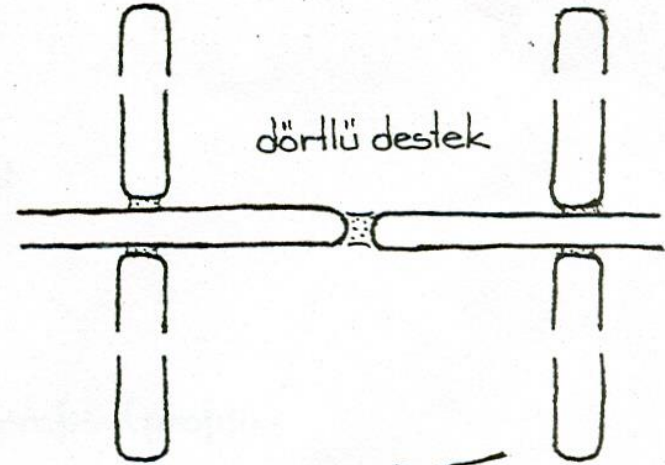
DÜZ LEVHALARLA ÜRETİLMİŞ DUVAR

- Cam ile destekleme

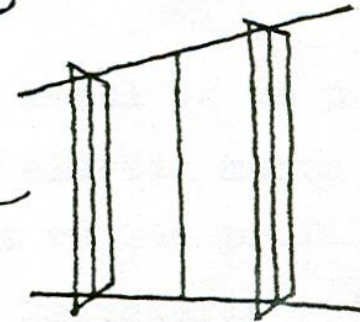


tek taraflı

çift taraflı

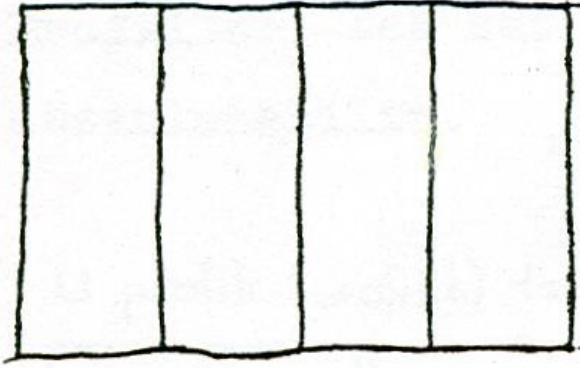


dörtlü destek



DÜZ LEVHALARLA ÜRETİLMİŞ DUVAR

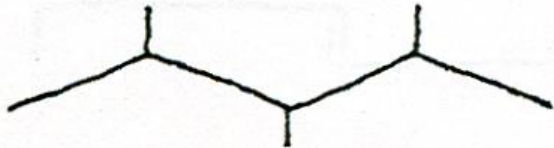
- Direnç sağlayan yüzey kurma



kırık yüzey



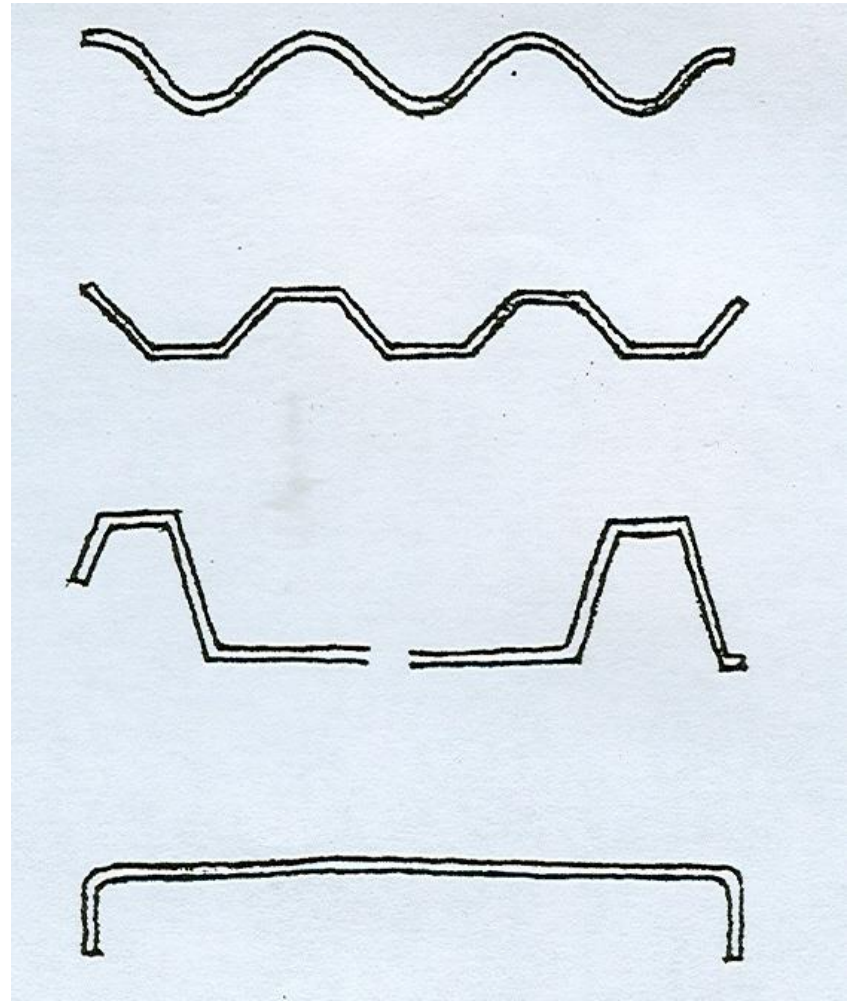
tek destekli kırık yüzey



çift destekli kırık yüzey

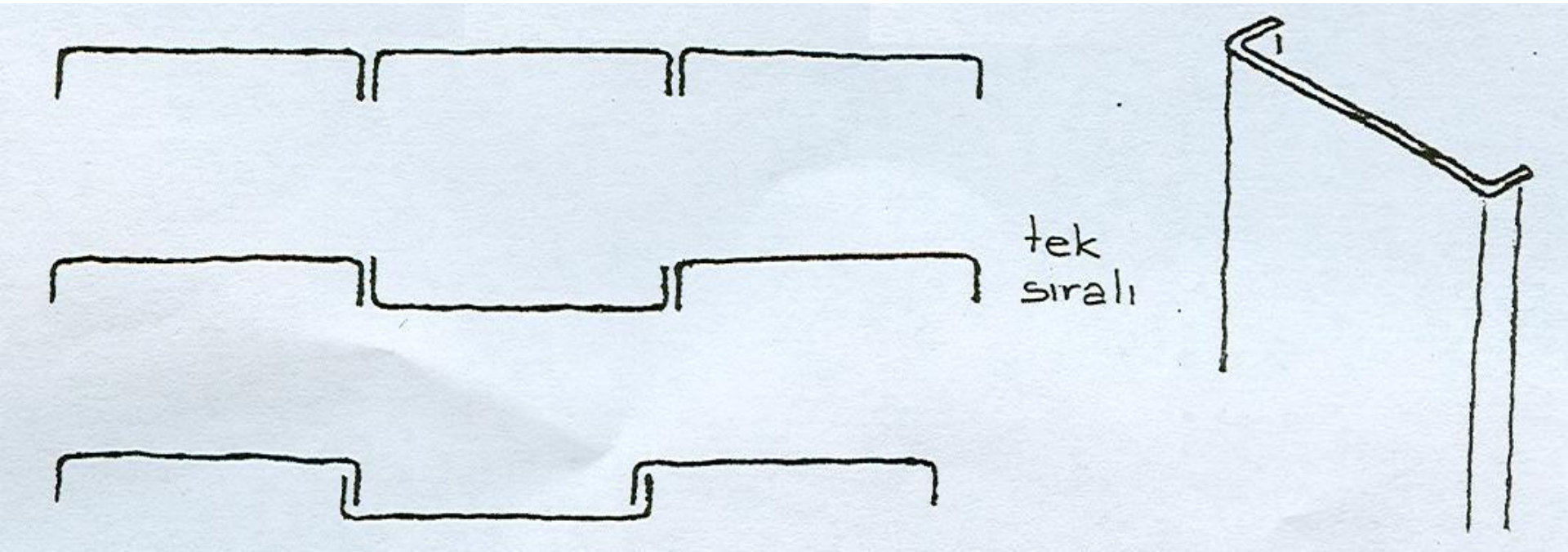
PROFİLLİ LEVHALARLA ÜRETİLMİŞ DUVARLAR

- Ondüle profil
- Trapez profil
- Şed profil
- U profil



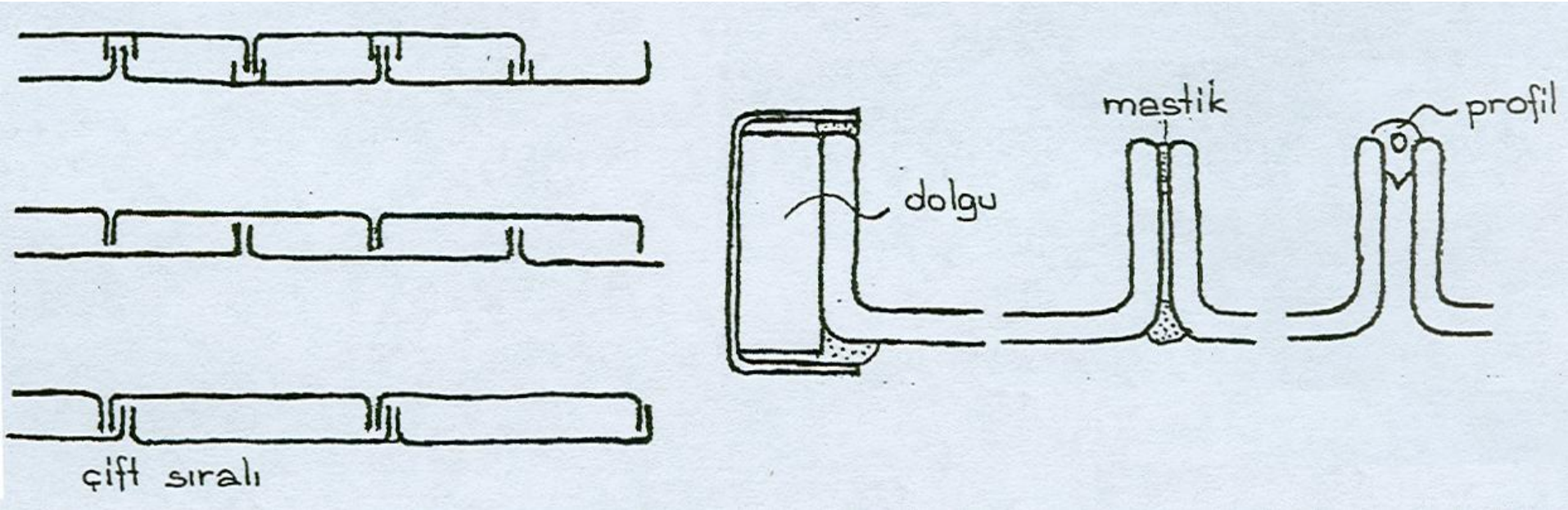
PROFİLLİ LEVHALARLA ÜRETİLMİŞ DUVARLAR

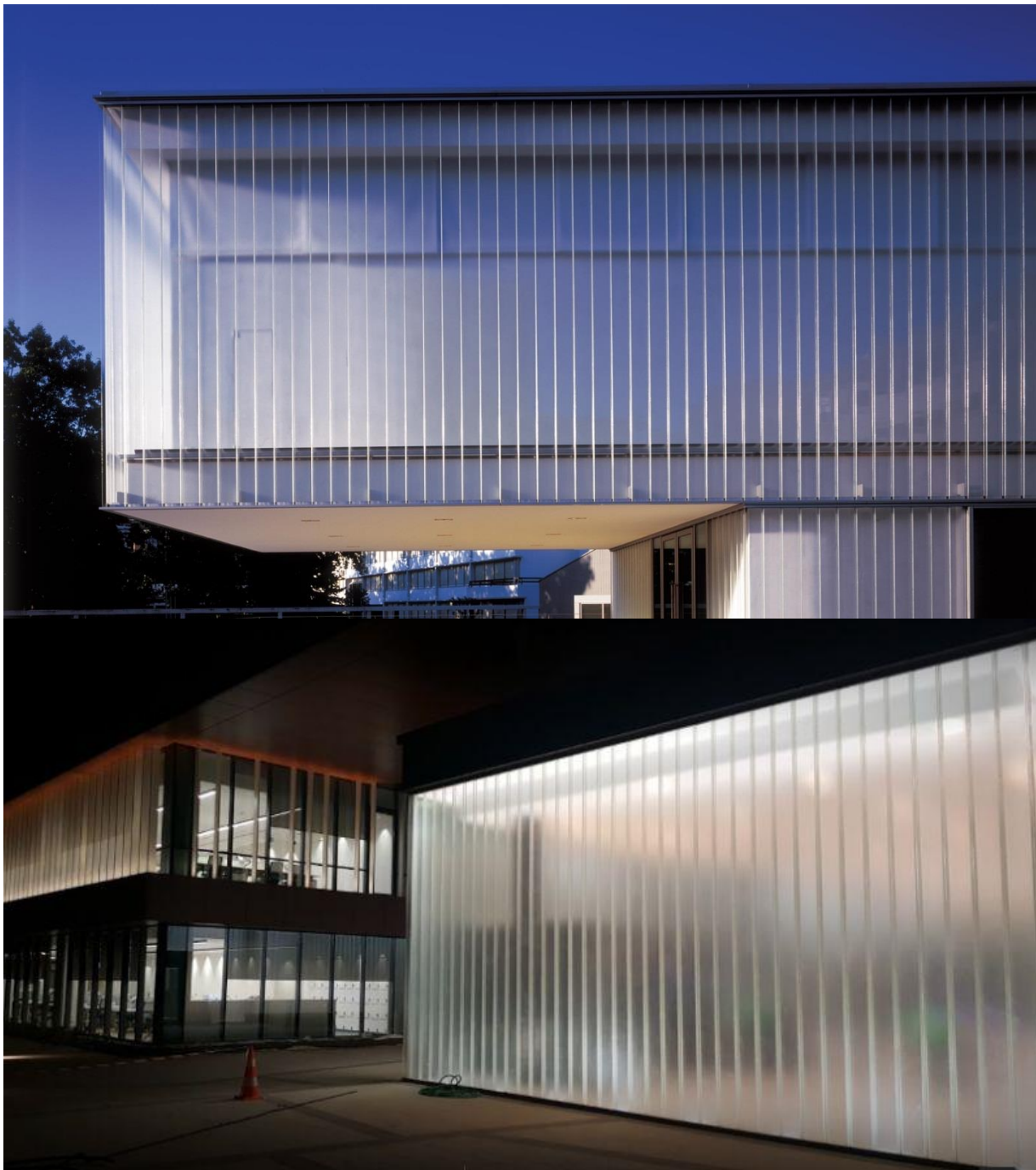
- U profilli tek sıralı



PROFİLLİ LEVHALARLA ÜRETİLMİŞ DUVARLAR

- U profilli çift sıralı





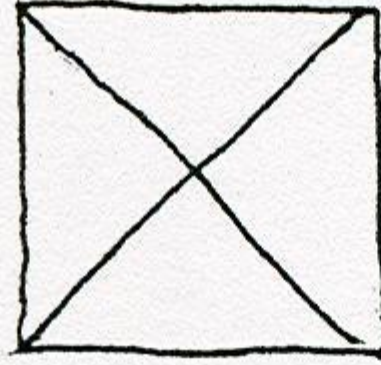
PLASTİK DUVARLAR

- Plastik düz levha
- Dalgalı plastikler
- Plastik panolar
- Plastik kabuklar
- Şişirme ve plastik

METAL DUVARLAR

- Bakır
- Kurşun
- Paslanmaz çelik
- Korten çeliği
- Alüminyum ve alaşımları

LEVHA VE ŞERİTLERLE OLUŞTURULAN PANOLAR



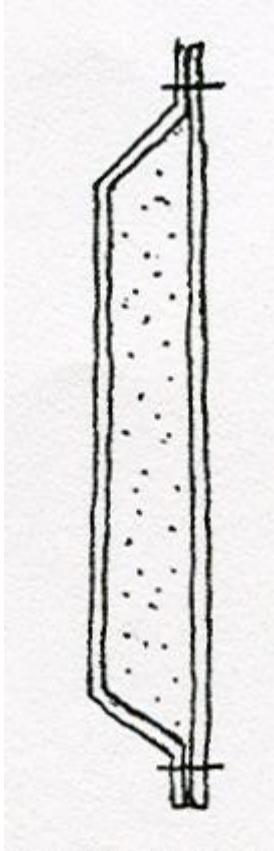
levha



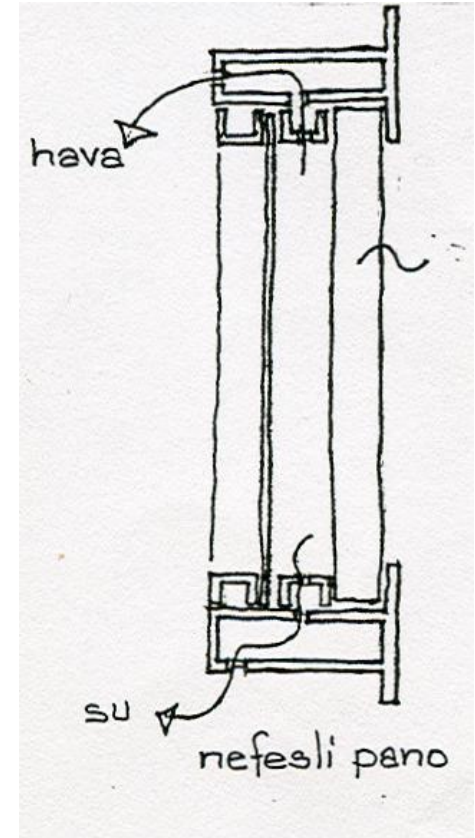
seritlerle oluşturulmuş
bir levha

METAL PANOLAR

Dolu (sandviç ve keson)



Nefesli



METAL DUVARLARDA DİKKAT EDİLECEK NOKTALAR

- Isı köprüleri önlenmeli
- Yoğuşma önlenmeli
- Genleşme payı bırakılmalı
- Panolar kolay takılıp, kolay değiştirilmeli