



ACÚSTICA²¹

Ouça a diferença. *Listen to the difference.*

CASTELHANO E FERREIRA

A Castelhano e Ferreira iniciou a sua atividade em 1978.

Ao longo dos seus mais de 40 anos de existência no mercado desenvolveu uma gama de soluções direcionadas para o conforto dos espaços interiores entre as quais painéis de condicionamento acústico, paredes móveis, divisórias e mobiliário.

Completo a sua gama de produtos com painéis de madeira maciça e com o estabelecimento de diversas parcerias no sentido de apresentar soluções globais para as diferentes áreas: auditórios, escritórios, espaços ligados à área da saúde, hotelaria, entre outros...

Centrando-se nas necessidades do cliente, tornou-se uma referência no mercado português e conta com diversas obras instaladas a nível nacional e internacional.

Castelhano & Ferreira started its activity in 1978.

Over the course of its more than 40 years on the market, it has developed a range of different solutions for the comfort of interior spaces including acoustic conditioning panels, movable walls, partitions and furniture.

It has completed its product range with solid wood panelling and the establishment of various partnerships in order to present global solutions for different areas: auditoriums, offices, health spaces, hotels, among others...

Focusing on customer needs, it has become a reference in the Portuguese market and has several works installed nationally and internationally.





Marcação CE

A Castelhano e Ferreira obteve a Marcação CE segundo a EN 13986:2004 + A1 para o sistema de condicionamento acústico da gama Acústica 21. Classe B-s2, d0 (Euroclasse segundo EN 13501-1) – sistema Acústica 21, composto por painel em MDF ignífugo folheado (com ou sem perfuração) ou laminado perfurado + tela acústica + estrutura de alumínio + lã de rocha.

Classe B-s1, d0 (Euroclasse segundo EN 13501-1) – sistema Acústica 21, composto por painel em MDF ignífugo laminado sem perfuração + estrutura de alumínio + lã de rocha.

Certificações Adicionais

Os painéis Acústica 21 têm certificação ASTM E84 e CAN/ULC-S102.

Certificação FSC®

A Castelhano e Ferreira obteve a certificação FSC®, podendo fornecer painéis acústicos com matéria prima de origem controlada.



The mark of
responsible forestry

Créditos Leed

A Castelhano e Ferreira utiliza, no fabrico de painéis acústicos em MDF, material que pode contribuir para a obtenção de até 5 créditos LEED.

Sistema de Gestão de Qualidade

Desde 2003 a empresa é certificada pela NP EN ISO 9001 que atesta o cumprimento dos requisitos da norma.

Política Florestal

A Administração da Castelhano e Ferreira, pretende cumprir todos os requisitos normativos da norma FSC, para demonstrar o seu comprometimento com a preservação do ambiente e a sua preocupação sobre a origem da madeira que utiliza na sua produção, comprometendo-se a fazer todos os esforços no sentido da madeira que comercializa não ser das seguintes categorias:

- Madeira Explorada ilegalmente;
- Madeira explorada em violação dos direitos tradicionais e civis;
- Madeira Explorada em florestas nas quais os altos valores de conservação são ameaçados pelas atividades de gestão;
- Madeira Explorada em florestas em processo de conversão para plantações ou para usos não florestais do solo;
- Madeira proveniente de florestas nas quais foram plantadas árvores geneticamente modificadas;

A empresa pretende adotar práticas de gestão florestal sustentável e divulgá-la a todas as partes interessadas.

Para a concretização da sua política, torna-se imprescindível a consciencialização dos seus fornecedores para as boas práticas nesta matéria, fomentando a sua responsabilidade dentro da Cadeia de Responsabilidade Florestal.



CE Marking

Castelhano & Ferreira's products have CE marking in line with the EN 13986:2004 + A1 standard for the acoustic conditioning system of the Acoustic 21 range.

Class B-s2, d0 (Euroclass in line with EN 13501-1) – Acústica 21 system, comprising a veneered fire-resistant MDF panel (which may or may not be perforated) or laminated perforated + acoustic screen + aluminium structure + mineral wool.

Class B-s1, d0 (Euroclass in line with EN 13501-1) – Acústica 21 system, comprising a non-perforated laminated fire-resistant MDF panel + aluminium structure + mineral wool.

Additional Certifications

The Acústica 21 panels are ASTM E84 and CAN / ULC-S102 certified.

FSC® Certification

Castelhano e Ferreira holds the FSC® certification and therefore may supply acoustic panels made from raw materials of controlled origin.



Leed Credits

Castelhano & Ferreira uses MDF to produce its acoustic panels, which is material that can contribute to obtaining up to 5 LEED credits.

Quality Management System

Since 2003 the company is certified by the NP EN ISO 9001 standard, complying with all the requirements of the standard.

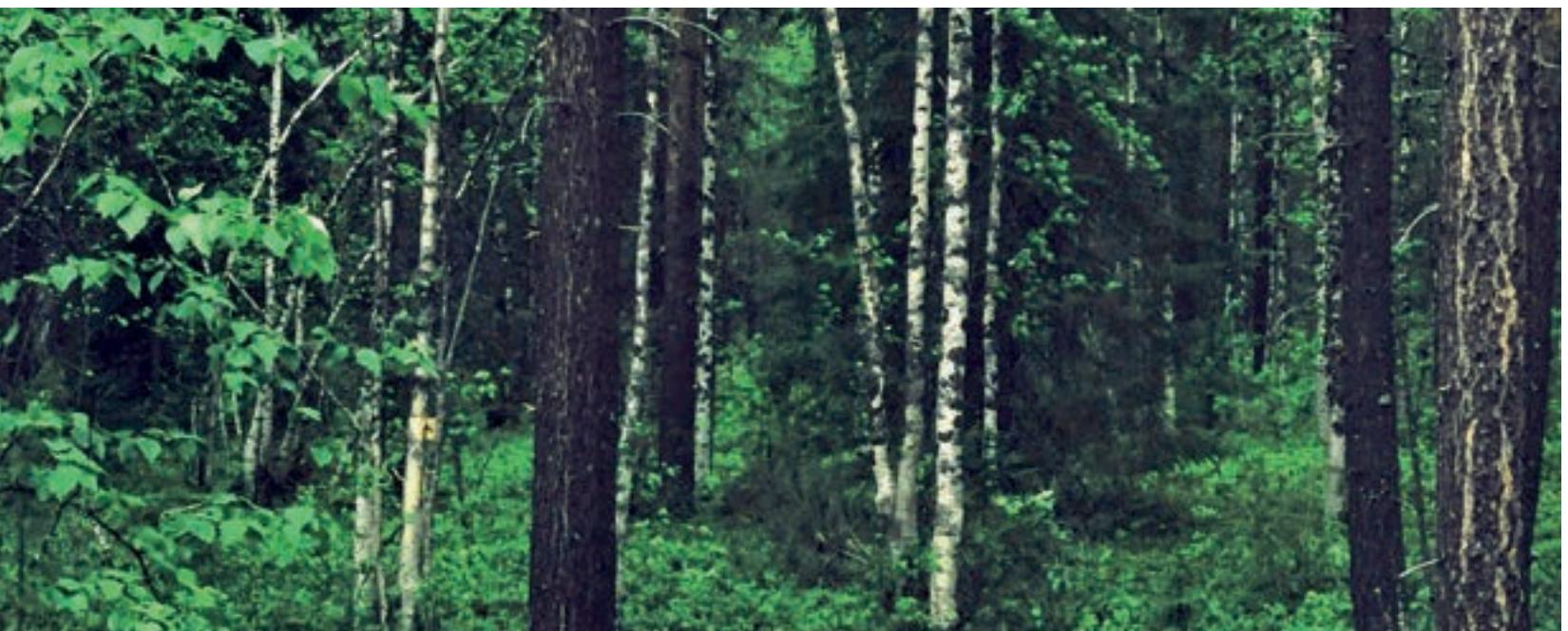
Forest Policy

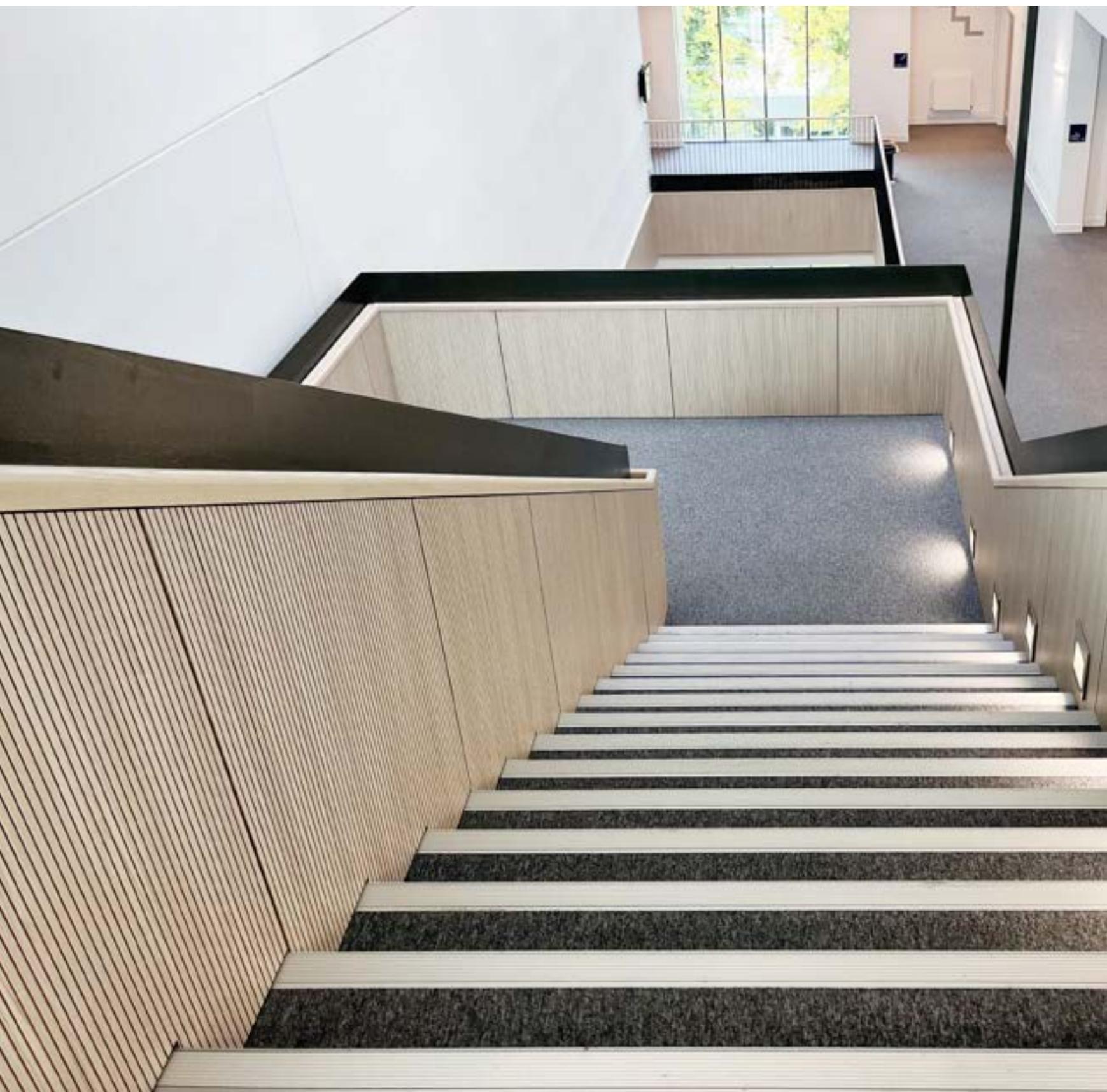
Castelhano & Ferreira's Management complies with all the requirements of the FSC standard, showing its commitment to environmental conservation and its concern about the origin of the wood it uses in its products, making every effort to ensure the wood it sells does not belong to any of the following categories:

- Illegally produced wood;
- Wood obtained in breach of traditional and civil rights;
- Wood obtained in forests whose conservation is under threat due to the way they are being managed;
- Wood obtained in forests undergoing conversion for crops or non-forest use of the ground;
- Wood obtained from forests in which genetically modified trees have been planted;

The company intends to adopt sustainable forest management practices and disseminate them to all interested parties.

To implement its policy, raising awareness among the suppliers is essential for good practices in this area, encouraging them to act responsibly within the Forest Responsibility Chain.







Projecto/Project: The Nucleus Building, The University of Edinburgh - Ref: CFRF/3/10-16/16 - Local/Location: Escócia/Scotland

Normativa Normative

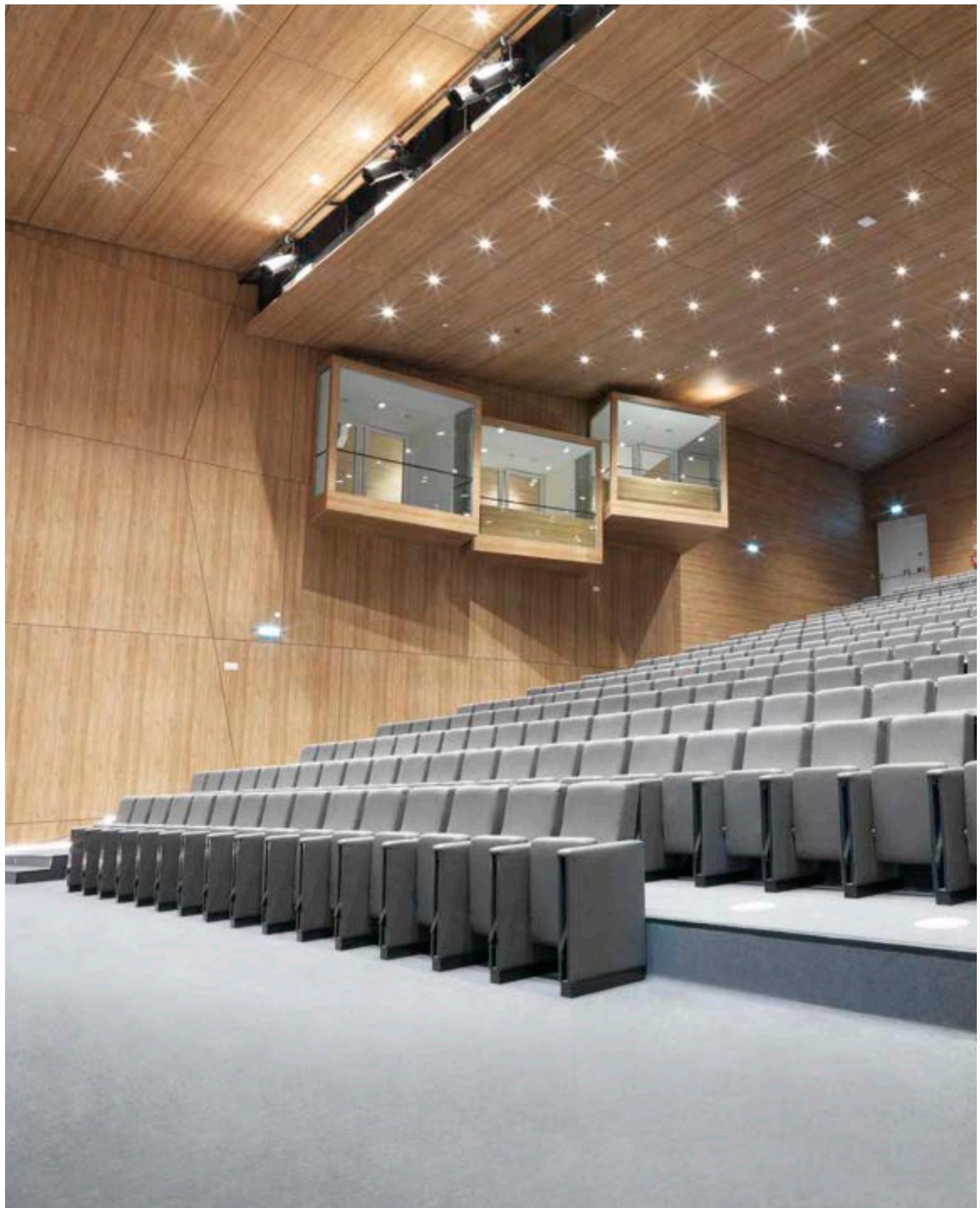
Decreto-Lei n.º 96/2008, de 9 de junho (novo RRAE), que estabelece limites ao tempo de reverberação sonora e áreas de absorção sonora equivalente em:

- Edifícios habitacionais e unidades hoteleiras
- Edifícios comerciais, de serviços e industriais
- Edifícios escolares e de investigação (inclusive em refeitórios e corredores de grande circulação)
- Recintos desportivos
- Estações de transporte de passageiros
- Auditórios e salas de espectáculos

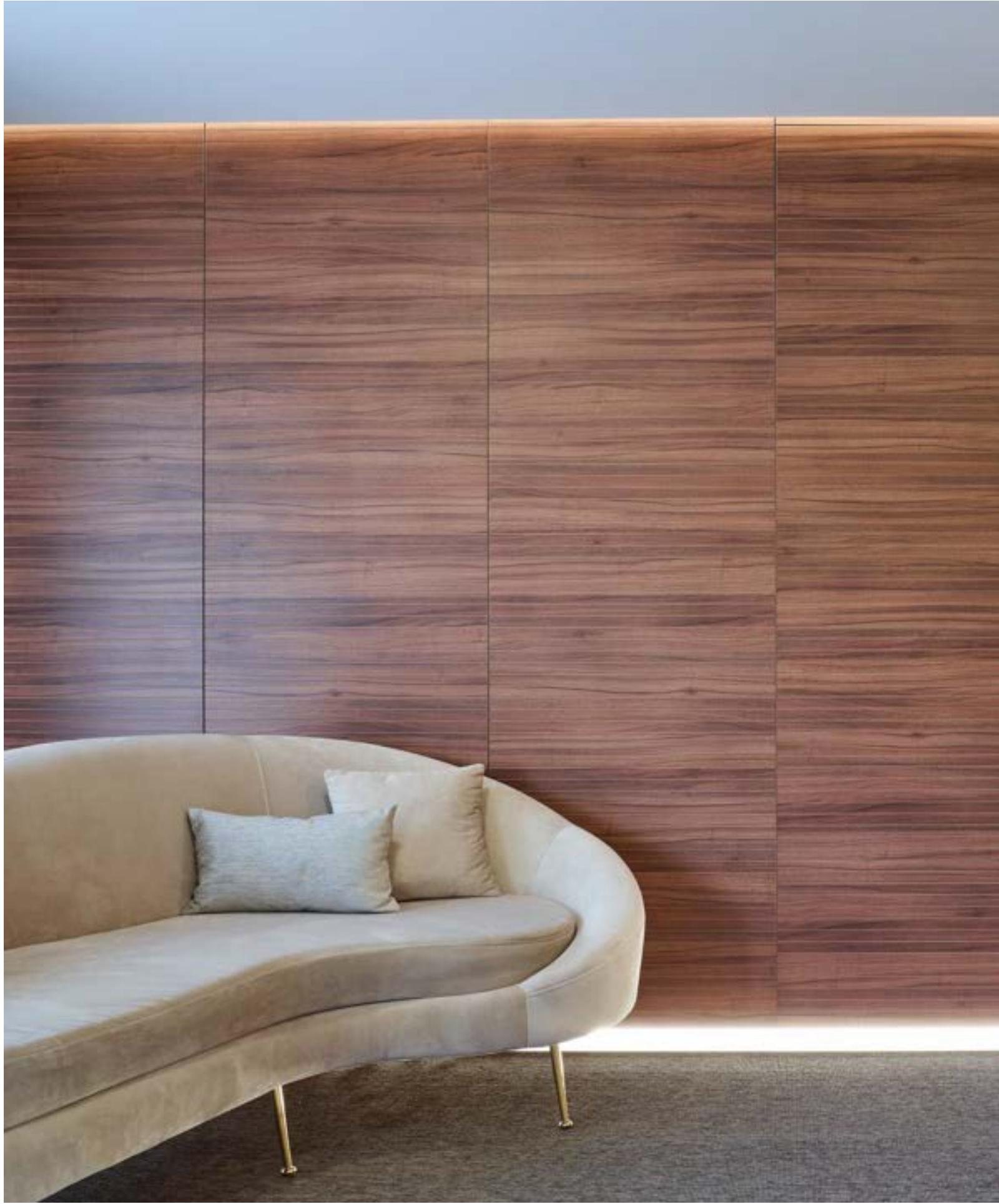
Decree-Law No. 96/2008 of 9 June (new RRAE), which sets limits on sound reverberation time and sound absorption areas equivalent for:

- Residential buildings and hotels
- Shopping centres, office and industrial buildings
- Schools and research centres (including canteens and corridors having intense traffic)
- Sportive halls
- Passenger transport stations
- Auditoriums and halls





Projecto/Project: Nova School of Business & Economics - Ref.: CFRF 3/12-32/16 - Local/Location: Carcavelos, Portugal

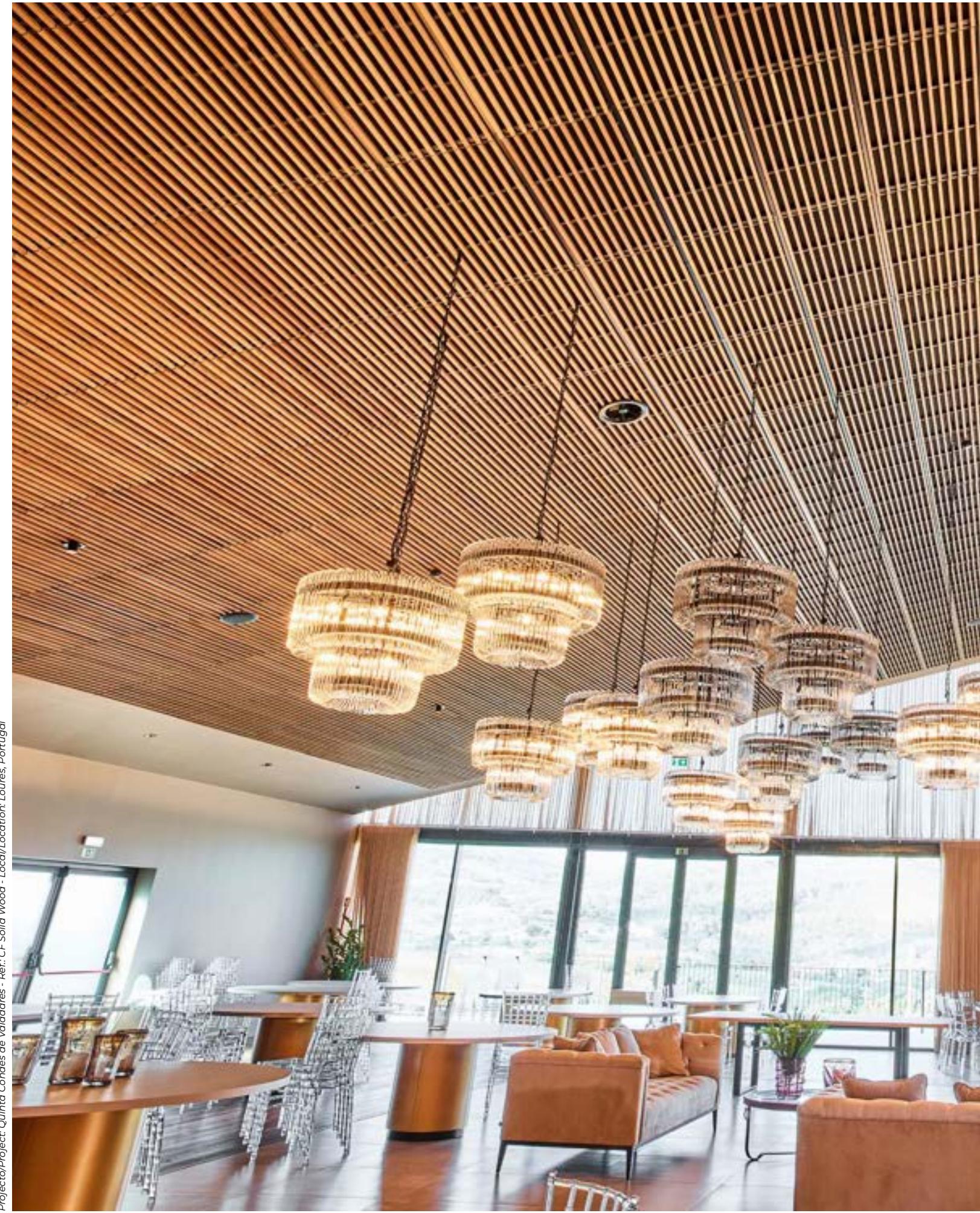






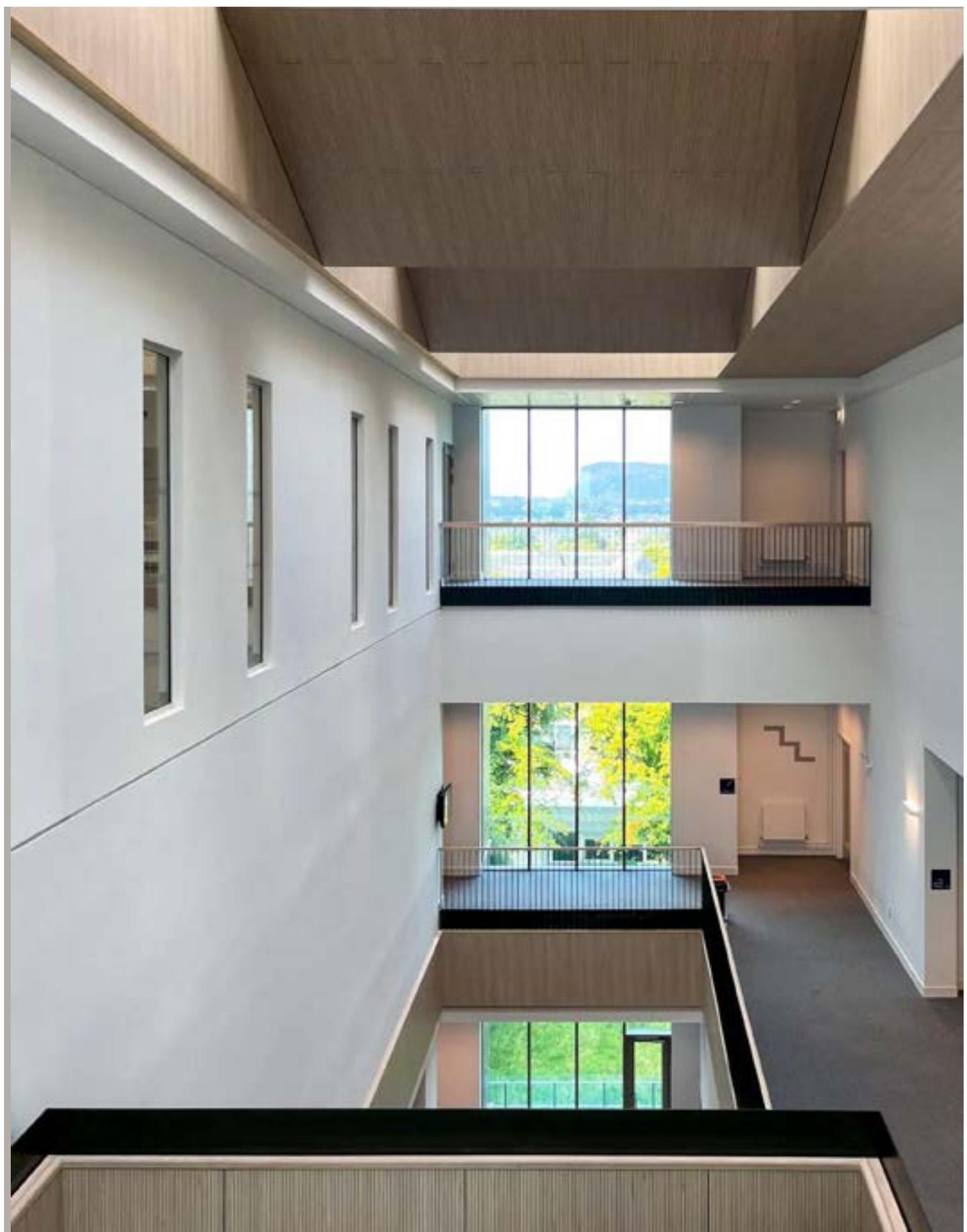


Project/Project: The Editorial Boulevard Aliados Hotel - Ref.: CF Micro - Local/Location: Leiria, Portugal



Projecto/Project: Quinta Condes de Valadares - Ref.: CCF Solid Wood - Local/Location: Loures, Portugal









Projecto/Project: Macoris - Ref.: CFRF 3/8 - 16/32 - Local/Location: Leiria, Portugal







Características

Features

Comportamento dos Painéis

Os painéis Acústica 21 em MDF deverão ser colocados numa superfície plana no local da montagem 2 a 3 dias antes da sua aplicação para que sofram as dilatações normais da madeira.

Durante a estabilização e montagem, a temperatura não deverá ser inferior a 15°C e a humidade relativa deverá estar situada entre os 40% e os 60%. O local da obra deverá estar fechado e climatizado pelo menos 24 horas antes do início da montagem.

Sendo o MDF um material que expande e contrai de acordo com as alterações térmicas e de humidade, é aconselhável a utilização de uma junta mínima de 2mm entre painéis quer em tectos quer em paredes.

Características Técnicas

Os painéis ACÚSTICA 21 são constituídos por placas de MDF ignífugo ou standard, revestidas a laminado ou folheado, ou MDF colorido sendo estes últimos acabados com verniz com características ignífugas.

Independentemente do substrato, poderão ainda ser lacados em qualquer cor RAL.

Os painéis têm 12, 16 ou 19 mm de espessura, dependendo da referência, e podem ter furações ou rasgos standard ou outros sob consulta, conforme as necessidades de correção acústica.

Na face não visível das placas perfuradas, é colada uma tela acústica com características ignífugas.

Certificação Acústica

Os painéis Acústica 21 são testados por laboratórios acreditados, externos à Castelhano e Ferreira, que atestam o desempenho acústico do sistema de forma rigorosa e independente.

Behaviour of the Panels

The panels should be taken to the location two to three days before they are applied in order to undergo the normal wood dilation process.

During stabilization and assembly, the temperature should not be less than 15 °C and the relative humidity should be between 40% and 60%.

The work site must be closed and air-conditioned at least 24 hours before the start of assembly.

As MDF is a material that expands and contracts according to the changes in temperature and humidity, it is advisable to use a minimum joint of 2mm between panels in both ceilings and walls.

Technical Characteristics

Acústica 21 panels are made from fire-resistant or standard MDF boards, which are laminated or veneered, or coloured MDF finished with fire-resistant varnish. Regardless of the surface, the panels may be lacquered in any RAL colour.

The panels are 12, 16 or 19 mm in thickness, depending on the reference, and may have standard drilled holes or grooves, upon consultation, in line with the acoustic correction needs.

A fire-resistant acoustic screen is placed on the non-visible side of the perforated boards.

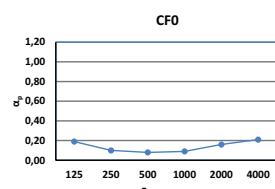
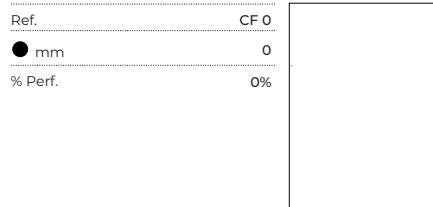
Acoustic Certification

The Acústica 21 panels are tested by accredited laboratories, which testify the acoustic performance of the system in a thorough and independent manner.

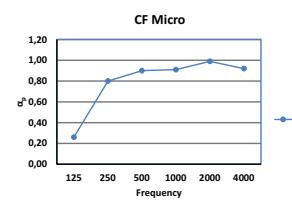
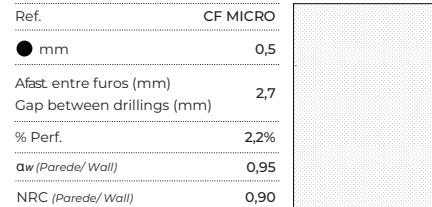
Informação Técnica

Technical Information

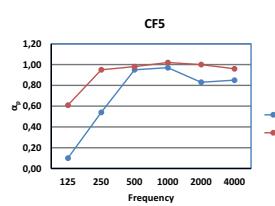
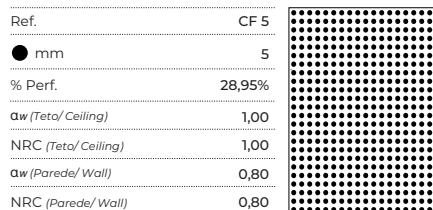
CF 0 *



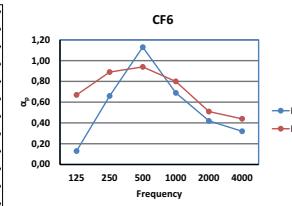
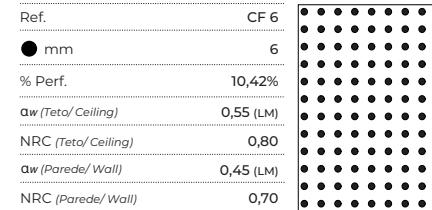
CF MICRO *



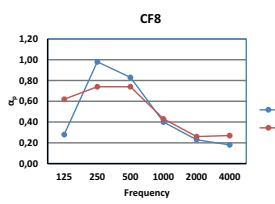
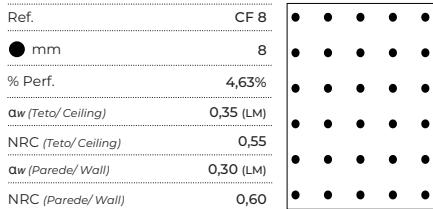
CF 5 *



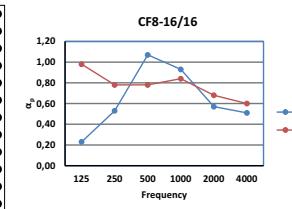
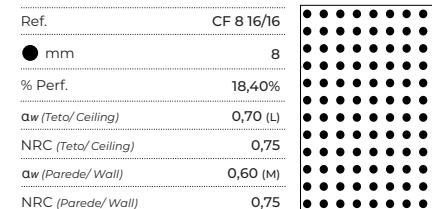
CF 6 *



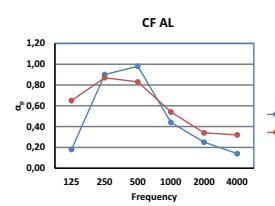
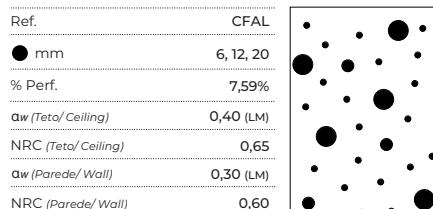
CF 8 *



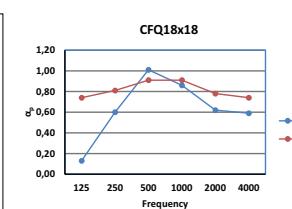
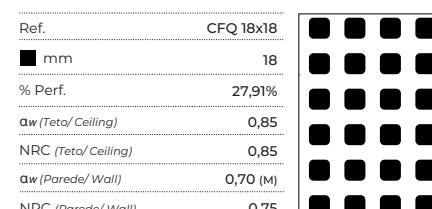
CF 8 16/16 *



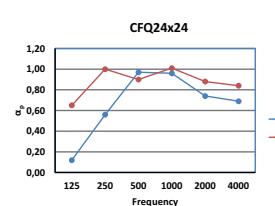
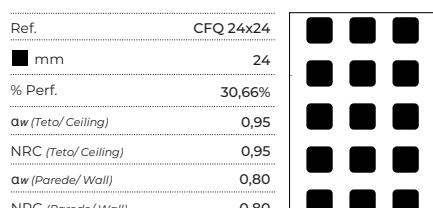
CFAL *



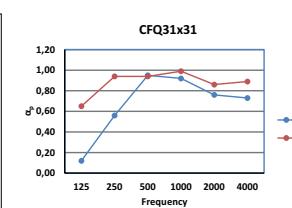
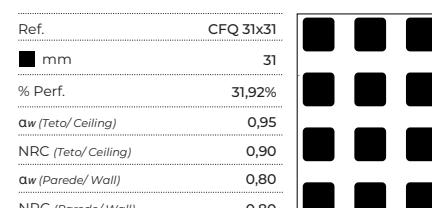
CFQ 18X18 *



CFQ 24X24 *



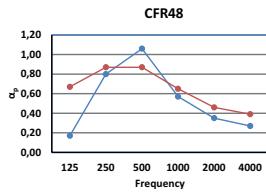
CFQ 31X31 *



* Produtos disponíveis com certificação FSC mediante pedido.
Products are available as FSC certified on request.

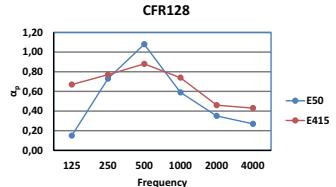
CFR 48 *

Ref.	CFR 48
mm	100x8
% Perf.	10,05%
aw (Teto/Ceiling)	0,50 (LM)
NRC (Teto/Ceiling)	0,70
aw (Parede/Wall)	0,35 (LM)
NRC (Parede/Wall)	0,70



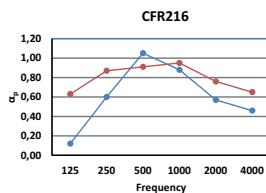
CFR 128 *

Ref.	CFR 128
mm	40x8
% Perf.	10,47%
aw (Teto/Ceiling)	0,55 (LM)
NRC (Teto/Ceiling)	0,75
aw (Parede/Wall)	0,35 (LM)
NRC (Parede/Wall)	0,70



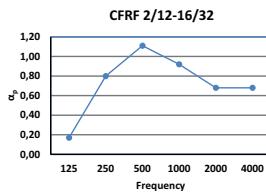
CFR 216 *

Ref.	CFR 216
mm	40x8
% Perf.	18,14%
aw (Teto/Ceiling)	0,80 (L)
NRC (Teto/Ceiling)	0,85
aw (Parede/Wall)	0,60 (M)
NRC (Parede/Wall)	0,75



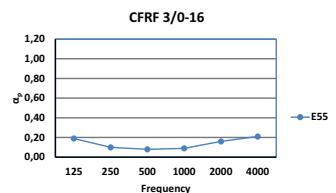
CFRF 2/12-16/32 *

Ref.	CFRF 2/12-16/32
Ranhura (Slot)	2
Tardoz (Back)	Ø 12
% Perf.	6,76%
aw (Parede/Wall)	0,75 (M)
NRC (Parede/Wall)	0,85



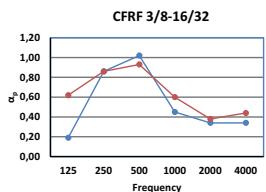
CFRF 3/0 - 16 *

Ref.	CFRF 3/0-16
Ranhura (Slot)	3
Tardoz (Back)	0
% Perf.	0%
aw (Parede/Wall)	0,15
NRC (Parede/Wall)	0,10



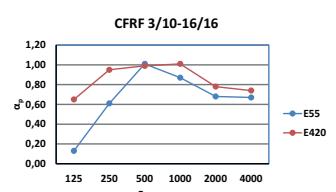
CFRF 3/8 - 16/32 *

Ref.	CFRF 3/8-16/32
Ranhura (Slot)	3
Tardoz (Back)	Ø 8
% Perf.	4,16%
aw (Teto/Ceiling)	0,50 (LM)
NRC (Teto/Ceiling)	0,70
aw (Parede/Wall)	0,40 (LM)
NRC (Parede/Wall)	0,65



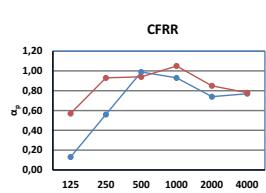
CFRF 3/10 - 16/16 *

Ref.	CFRF 3/10-16/16
Ranhura (Slot)	3
Tardoz (Back)	Ø 10
% Perf.	11,95%
aw (Teto/Ceiling)	0,85 (L)
NRC (Teto/Ceiling)	0,95
aw (Parede/Wall)	0,75 (M)
NRC (Parede/Wall)	0,80



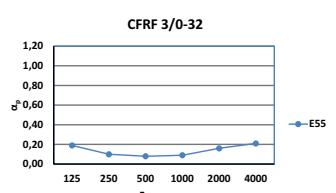
CFRR *

Ref.	CFRR
Ranhura (Slot)	3
Tardoz (Back)	80X8
% Perf.	12,50%
aw (Teto/Ceiling)	0,90 (L)
NRC (Teto/Ceiling)	0,95
aw (Parede/Wall)	0,80
NRC (Parede/Wall)	0,80



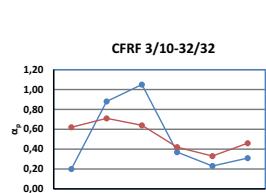
CFRF 3/0 - 32 *

Ref.	CFRF 3/0-32
Ranhura (Slot)	3
Tardoz (Back)	0
% Perf.	0%
aw (Parede/Wall)	0,15
NRC (Parede/Wall)	0,10



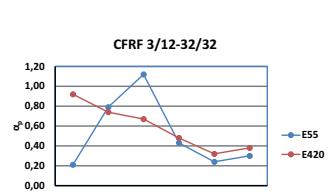
CFRF 3/10 - 32/32 *

Ref.	CFRF 3/10-32/32
Ranhura (Slot)	3
Tardoz (Back)	Ø 10
% Perf.	2,84%
aw (Teto/Ceiling)	0,35 (LM)
NRC (Teto/Ceiling)	0,50
aw (Parede/Wall)	0,35 (LM)
NRC (Parede/Wall)	0,60



CFRF 3/12 - 32/32 *

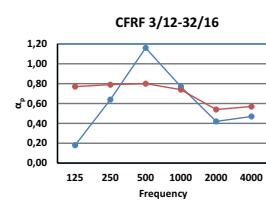
Ref.	CFRF 3/12-32/32
Ranhura (Slot)	3
Tardoz (Back)	Ø 12
% Perf.	3,25%
aw (Teto/Ceiling)	0,40 (LM)
NRC (Teto/Ceiling)	0,50
aw (Parede/Wall)	0,35 (LM)
NRC (Parede/Wall)	0,60



* Produtos disponíveis com certificação FSC mediante pedido.
Products are available as FSC certified on request.

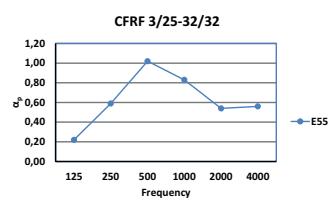
CFRF 3/12 - 32/16 *

Ref.	CFRF 3/12-32/16
Ranhura (Slot)	3
Tardoz (Back)	Ø 12
% Perf.	6,55%
aw (Teto/Ceiling)	0,65 (LM)
NRC (Teto/Ceiling)	0,70
aw (Parede/Wall)	0,50 (LM)
NRC (Parede/Wall)	0,70



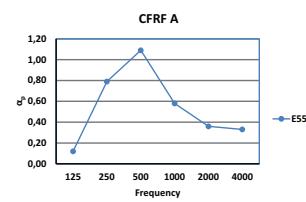
CFRF 3/25 - 32/32 *

Ref.	CFRF 3/25-32/32
Ranhura (Slot)	3
Tardoz (Back)	Ø 25
% Perf.	7,70%
aw (Parede/Wall)	0,60 (LM)
NRC (Parede/Wall)	0,75



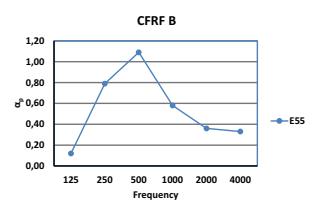
CFRF A *

Ref.	CFRF A
Ranhura (Slot)	3
Tardoz (Back)	Ø 25
% Perf.	5,01%
aw (Parede/Wall)	0,45 (LM)
NRC (Parede/Wall)	0,65



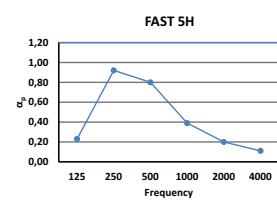
CFRF B *

Ref.	CFRF B
Ranhura (Slot)	3
Tardoz (Back)	Ø 25
% Perf.	5,01%
aw (Parede/Wall)	0,45 (LM)
NRC (Parede/Wall)	0,65



FAST 5H *

Ref.	FAST 5H
Furo Frente (Front Slot)	8
Furo Tardoz (Back Slot)	135x25
% Perf. (Frente / Front)	6,7%
% Perf. (Tardoz / Back)	28,9%
aw (Parede/Wall)	0,25 (LM)
NRC (Parede/Wall)	0,55



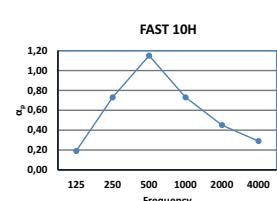
FAST 5HD *

Ref.	FAST 5HD
Furo Frente (Front Slot)	8
Furo Tardoz (Back Slot)	125x25
% Perf. (Frente / Front)	6,7%
% Perf. (Tardoz / Back)	13,45%
aw (Parede/Wall)	0,35 (LM)
NRC (Parede/Wall)	0,60

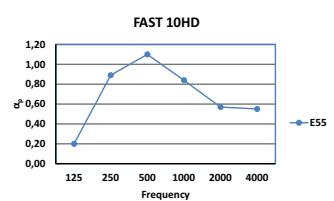


FAST 10H *

Ref.	FAST 10H
Furo Frente (Front Slot)	8
Furo Tardoz (Back Slot)	136x16
% Perf. (Frente / Front)	13,4%
% Perf. (Tardoz / Back)	42,6%
aw (Parede/Wall)	0,45 (LM)
NRC (Parede/Wall)	0,75

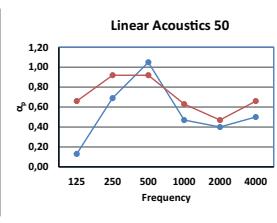


Ref.	FAST 10HD
Furo Frente (Front Slot)	8
Furo Tardoz (Back Slot)	116x16
% Perf. (Frente / Front)	13,4%
% Perf. (Tardoz / Back)	22,7%
aw (Parede/Wall)	0,65 (LM)
NRC (Parede/Wall)	0,85



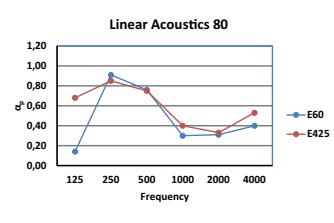
LINEAR ACOUSTICS 50 *

Ref.	LINEAR ACOUSTICS 50
Largura Régua (Ruler Width - mm)	50
Afast. entre Régulas (Gap between ruler - mm)	12
% Perf.	19,35%
aw (Teto/Ceiling)	0,60 (LM)
NRC (Teto/Ceiling)	0,75
aw (Parede/Wall)	0,50 (LM)
NRC (Parede/Wall)	0,65



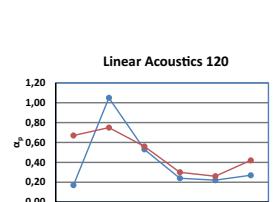
LINEAR ACOUSTICS 80 *

Ref.	LINEAR ACOUSTICS 80
Largura Régua (Ruler Width - mm)	80
Afast. entre Régulas (Gap between ruler - mm)	12
% Perf.	13,04%
aw (Teto/Ceiling)	0,40 (LM)
NRC (Teto/Ceiling)	0,55
aw (Parede/Wall)	0,35 (LM)
NRC (Parede/Wall)	0,55



LINEAR ACOUSTICS 120 *

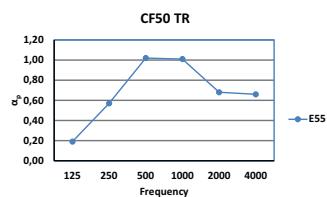
Ref.	LINEAR ACOUSTICS 120
Largura Régua (Ruler Width - mm)	120
Afast. entre Régulas (Gap between ruler - mm)	12
% Perf.	9,09%
aw (Teto/Ceiling)	0,30 (LM)
NRC (Teto/Ceiling)	0,45
aw (Parede/Wall)	0,30 (LM)
NRC (Parede/Wall)	0,45



* Produtos disponíveis com certificação FSC mediante pedido.
Products are available as FSC certified on request.

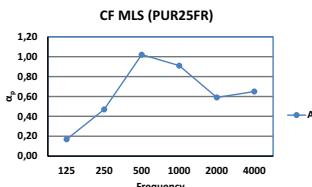
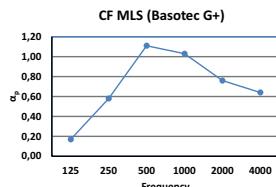
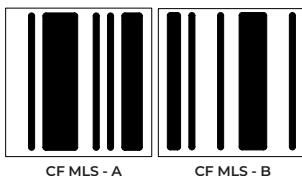
CF 50 TR *

Ref.	CF 50 TR
▲ mm	170x150x80
% Perf.	44%
aw (Parede/Wall)	0,75 (M)
NRC (Parede/Wall)	0,80



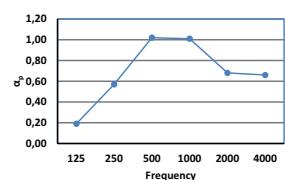
CF MLS-A / CF MLS-B

Ref.	CF MLS-A/CF MLS-B
Dim. (mm)	600x600
Basotec G+	
aw (Parede/Wall)	0,75 (M)
NRC (Parede/Wall)	0,90
PUR25FR	
aw (Parede/Wall)	0,70 (M)
NRC (Parede/Wall)	0,75



CF SOLID WOOD 1*

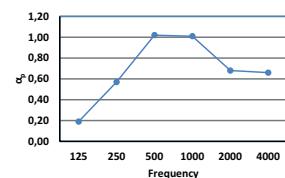
Ref.	CF SOLID WOOD 1
Dimensões Standard (Standard Dimensions)	
Dim.Régulas (Dim. Slats)	40X20 mm
Afast. entre Régulas (Spacing between slats)	40 mm



Observação: curva de absorção esperada.
Observation: expected absorption curve.

CF SOLID WOOD 2*

Ref.	CF SOLID WOOD 2
Dimensões Standard (Standard Dimensions)	
Dim.Régulas (Dim. Slats)	20X40 mm
Afast. entre Régulas (Spacing between slats)	45 mm



Observação: curva de absorção esperada.
Observation: expected absorption curve.

WOODCITY SCATTER 7

Ref.	WOODCITY SCATTER 7
Dim. (mm)	595x595



WOODCITY SCATTER 13

Ref.	WOODCITY SCATTER 13
Dim. (mm)	595x595



* Produtos disponíveis com certificação FSC mediante pedido.
Products are available as FSC certified on request.

Acabamentos

Finishings



Acabamentos possíveis: folheado, melamina, HPL, verniz, velatura, lacagem e impressão.
Possible finishings: veneer, melamine, HPL, varnish, staining, lacquered and printed.

Folheados: Faia, Bétula, Maple, Freixo, Carvalho, Nogueira, Cerejeira.
Natural Veneer: Beech, Birch, Maple, Ash, Oak, Walnut, Cherry.

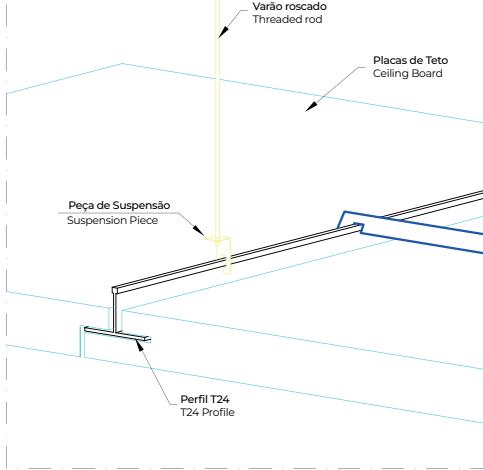
Laminados: Branco, Cinza, Preto, Faia, Maple, Freixo, Carvalho, Nogueira, Cerejeira.
Laminates: White, Grey, Black, Beech, Maple, Ash, Oak, Walnut, Cherry.

Outros acabamentos sob consulta.
Other finishings on request.

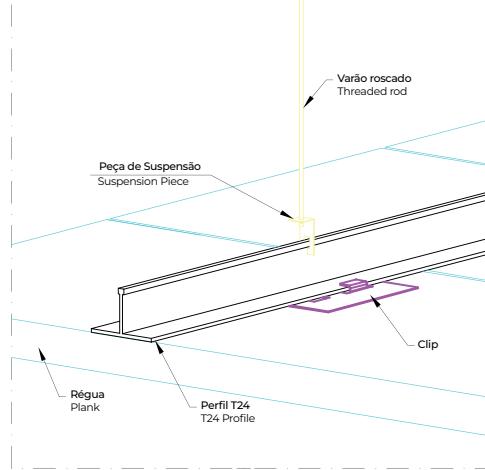
Esquemas de Montagem

Assembly Drawings

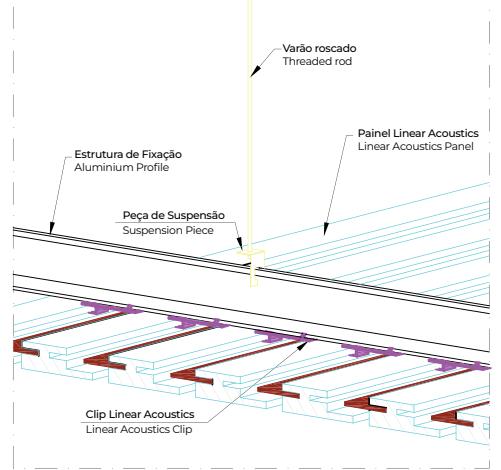
Teto em Placas
Board's Ceiling



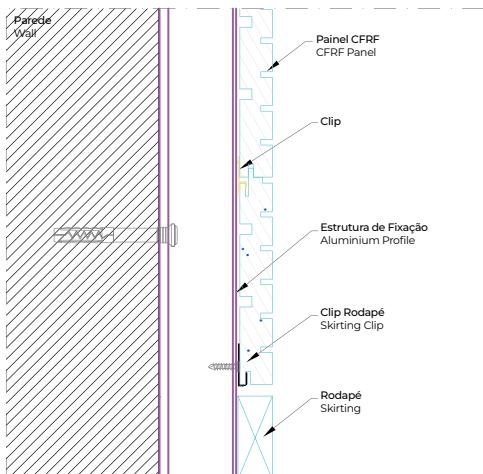
Teto em Régues
Planks' Ceiling



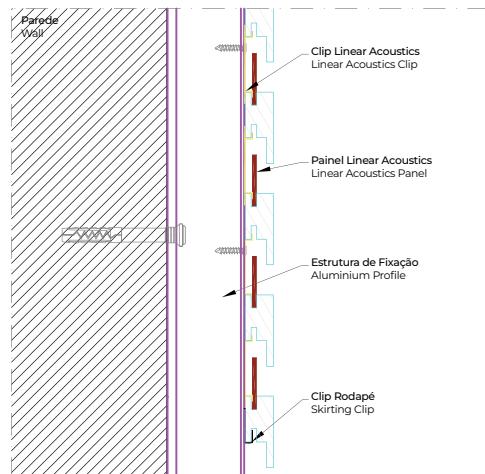
Teto Linear Acoustics
Linear Acoustics Ceiling



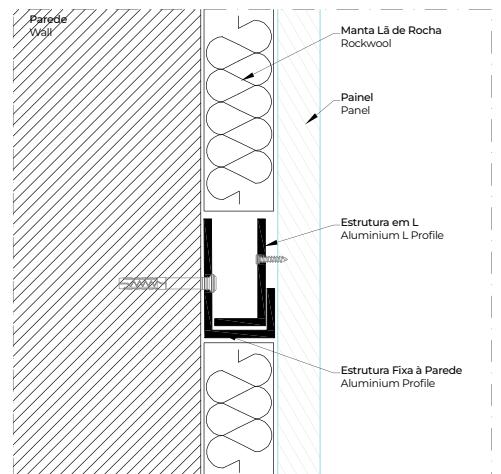
Painéis CFRF
CFRF'S Panels



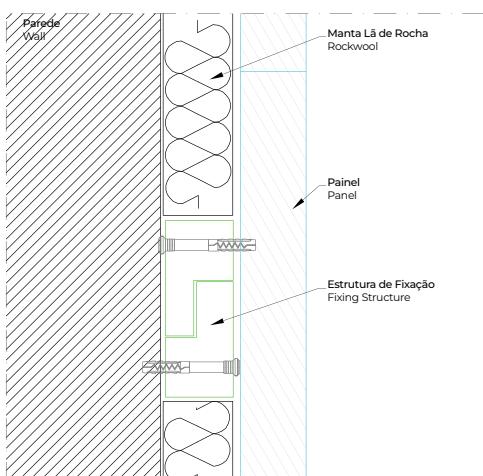
Linear Acoustics Montagem
Linear Acoustics Assembly



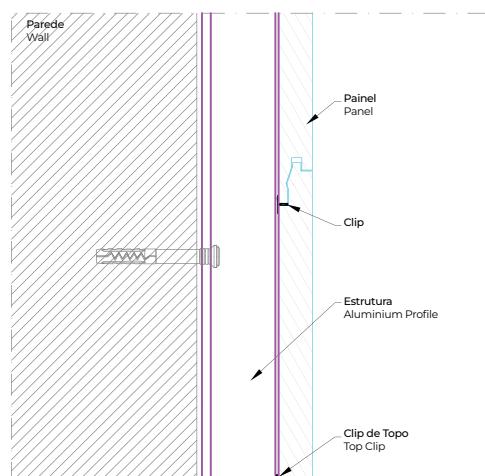
Painéis de Parede Amovível
Removable Wood Panel



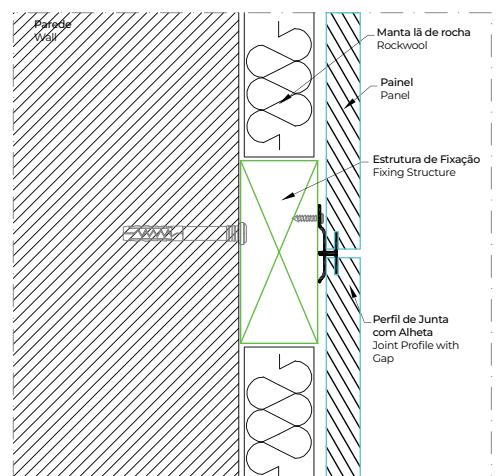
Painéis Microporfurados
Microperforated Panels



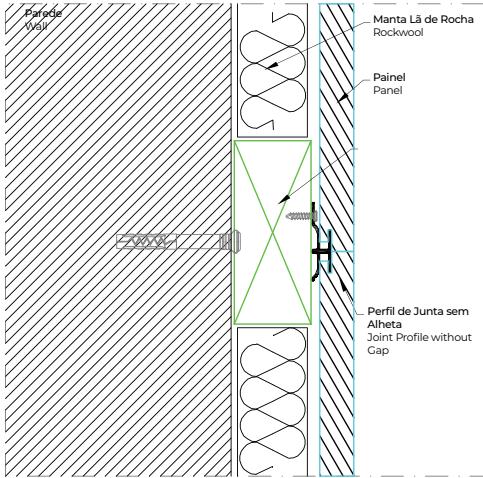
Painéis Microporfurados - Sistema Clic
Microperforated Panels - Clic System



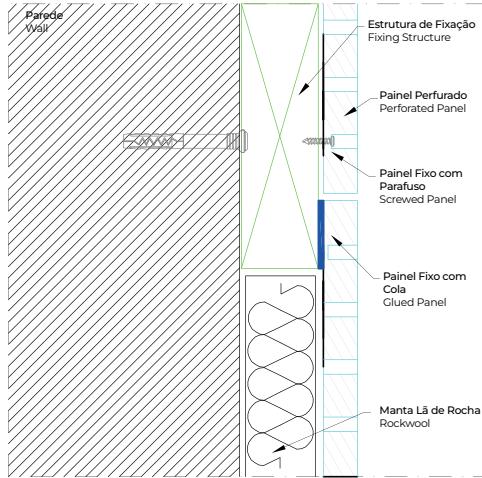
Perfil de Junta com Alheta
Joint Profile with Gap



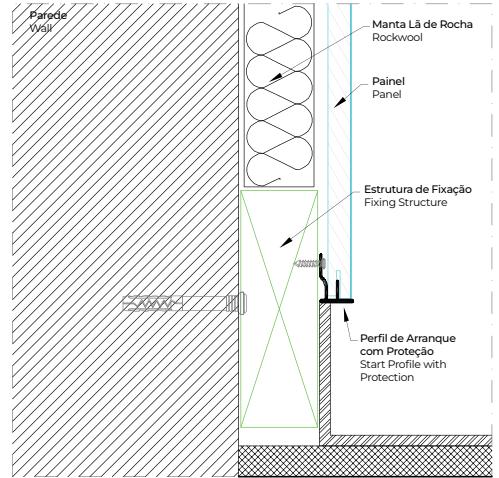
Perfil de Junta sem Alheira
Joint Profile without Gap



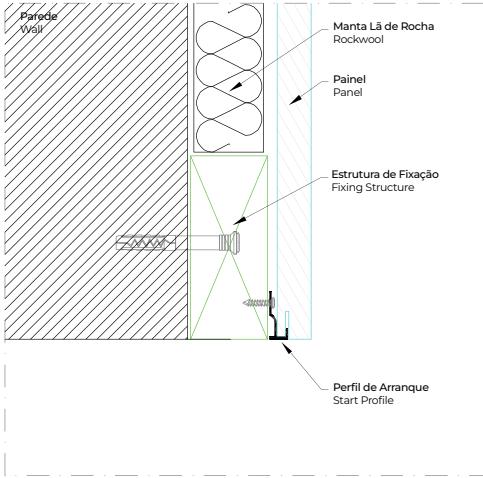
Sem Perfil Colado ou c/ Parafuso
No Profile - Glued or Screwed



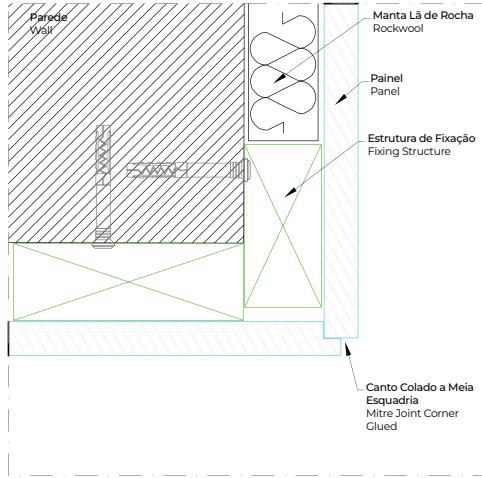
Perfil de Arranque com Proteção
Start Profile with Protection



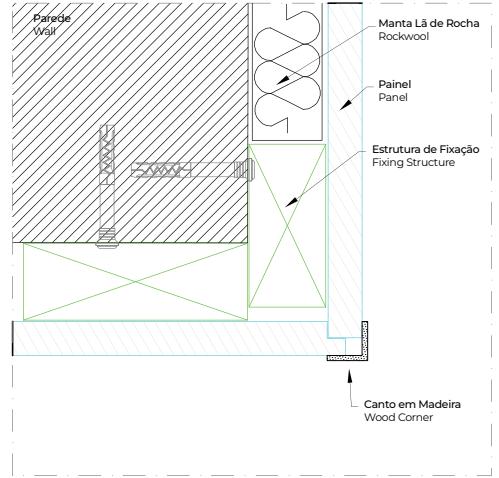
Perfil de Arranque
Start Profile



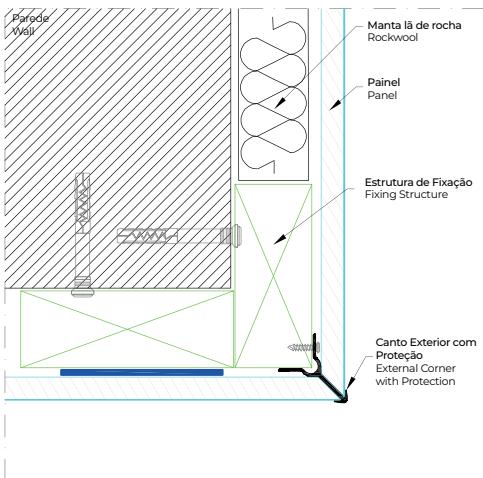
Canto sem Perfil
Corner without Profile



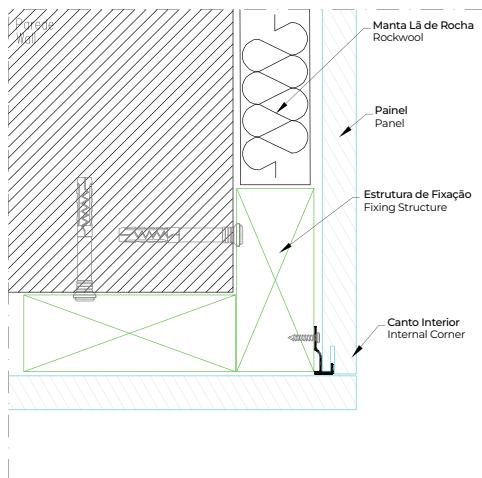
Canto de Madeira
Wood Corner



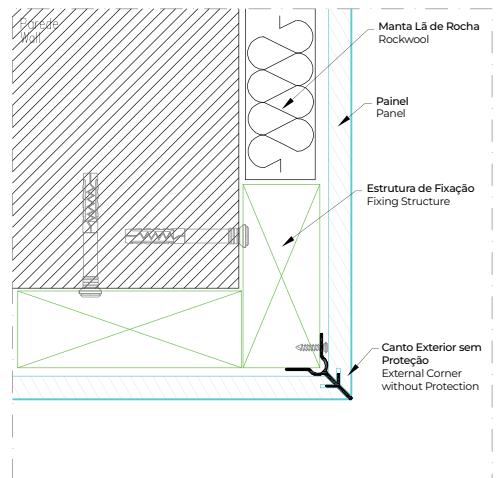
Canto Exterior com Proteção
External Corner with Protection



Canto Interior com Perfil
Internal Corner with Profile



Canto Exterior sem Proteção
External Corner without Protection



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