ATENA S.P.A. HAS A QUALITY MANAGEMENT SYSTEM CERTIFICATED BY RINA IN COMPLIANCE WITH ISO 9001

METAL CELLS
BASE 4 H30 SC Dualgrid
Open cell

PANELS DIMENSION
600x1200 mm other modules on request

OPEN CELL ELEMENTS
Base 4 H30 TM-TF interlocking profiles

OPEN CELL MATERIAL
4/10 Aluminum

INTEGRATED STRUCTURE
Carriers/spacers 27x33x27 L=2400 mm
in 8/10 black prepainted steel
Wire steel hooking springs

HANGERS
M6 Threaded bar
To be evaluated according to the load per m², the project requirements and the anti-seismic kits where provided.

COLORS
Atena standard white and silver pre-painted aluminum
RAL / NCS post-painting
Wood finishing on request

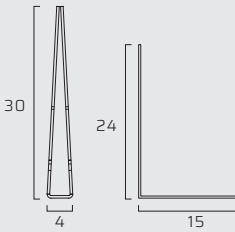
WALL ANGLES
"C" 18x33x25 perimeter profile
5/10 aluminum with the same finishing of the open cell

ACCESSORIES
Lighting adapters, carriers and spacers joints

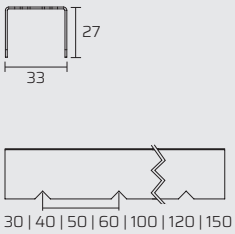
MESHES | INCIDENCES | WEIGHTS
See schedule on page 4

Sections

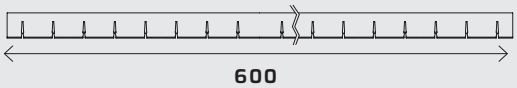
BASE 4 H30 SC DUALGRID



TSC CARRIER/SPACER

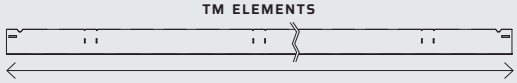


TF ELEMENTS



600

TM ELEMENTS



1200

TECHNICAL PERFORMANCES

FLEXION RESISTANCE	Maximum span mm 1200 - **1 Class** EN13964
CORROSION RESISTANCE	Galvanized steel products: **C2 Class** Pre-painted galvanized steel products: **C3 Class** Post-painted galvanized steel products: **C4 Class** Pre/post-painted aluminum products: **C5 Class**
(RH%) RELATIVE HUMIDITY RESISTANCE	Galvanized steel products: ≤ **90%** Pre/post-painted galvanized steel products: **> 90%** Stainless steel and aluminium products: **> 90%**
FIRE REACTION UNI EN 13501-1	**A1 Class**
CLEANING	Wet cloth with warm water and neutral non-abrasive detergents.
COLOR STABILITY	In compliance with technical tolerances standard. Test according the ΔE - CIELab method. ISO 7724-2 (3)
PAINTED ITEMS DURABILITY	C Class EN13964
GALVANIZED ITEM DURABILITY	B Class EN13964

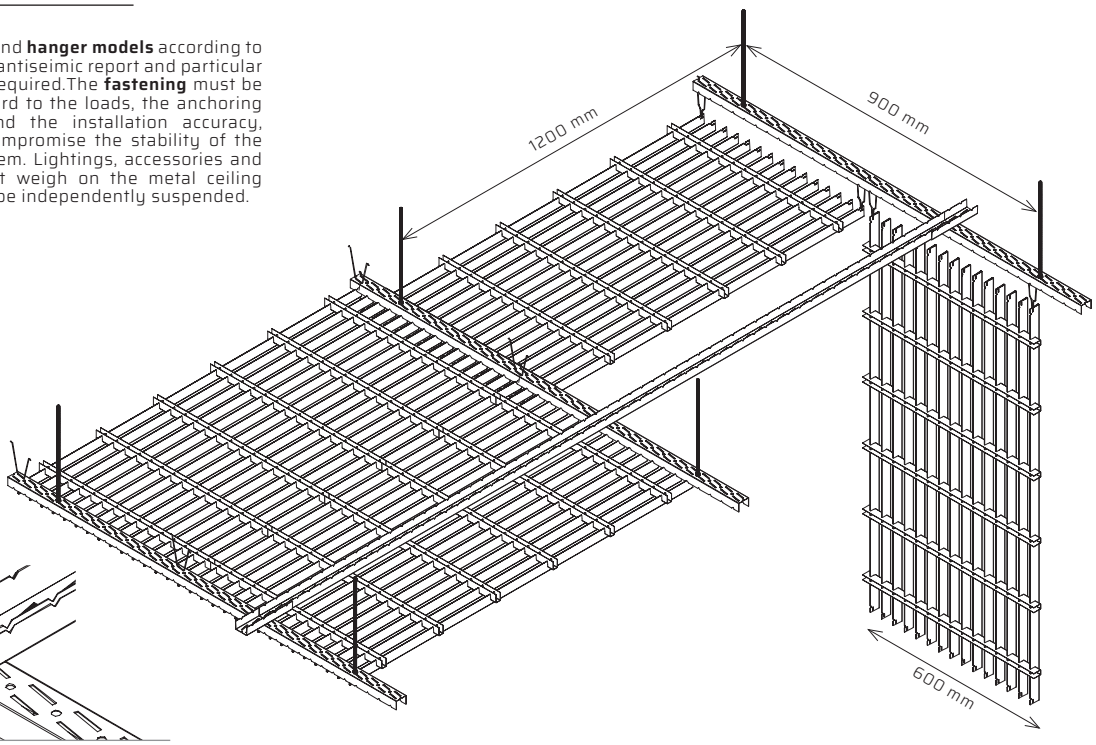
SUSTAINABILITY

Data declared according to ISO 14021 standard and validated during the EPD verification. Type III environmental labelling.

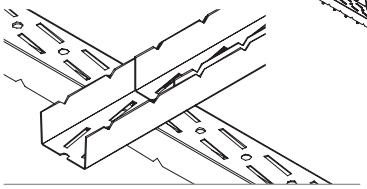
RECYCLED PRODUCT CONTENT	Compliance CAM 2.5.8	**GREEN BUILDING**	Requirements compliance: **LEED® | BREEAM® | WELL™** CAM 1.3.4
MATERIAL DEMOLITION AND REMOVAL	Non hazardous waste in compliance with CAM 2.6.2.	**GREEN ENERGY**	Renewables prevalent use CAM 1.2
DISASSEMBLY	Steel | Aluminium 100% recyclable CAM 2.6.2 | 2.4.14	**WASTE MANAGEMENT**	Compliance CAM 2.6.2.
ACOUSTIC PERFORMANCE	Not applicable	**BIM DESIGN AND MAINTEINANCE PLAN OF THE WORK**	CAM 2.7.3 | 2.4.13
SVHC PRESENCE	Compliance CAM 2.5.7	**FORMALDEHYDE**	Absent E1 Class CAM 2.5.1. | 3.2.8
RELEASE OF DANGEROUS SUBSTANCES	None CAM 2.5.1. | 3.2.8 EN13964	Requirement 2.5.1 - Compliance on all products. Rewarding requirement 3.2.8 - Compliance for post painted products with “Gold Leaf” high performance coating.	

SYSTEM

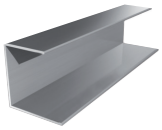
*verify **interaxes** and **hanger models** according to the load at m² the antiseimic report and particular conditions when required.The **fastening** must be checked with regard to the loads, the anchoring base features and the installation accuracy, in order not to compromise the stability of the metal ceiling system. Lightings, accessories and systems must not weigh on the metal ceiling system, but must be independently suspended.



To assure a correct alignment of the carriers, they will be used as spacers to be installed orthogonally at an interaxe of 2400 mm.



WALL ANGLE

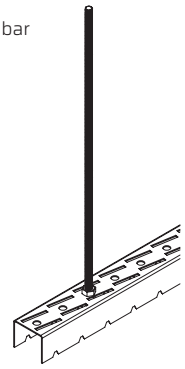


"C" PROFILE

18x33x25 mm
L=4000 mm

HANGERS

M6 Threaded bar



COMPONENT INCIDENCES

600x1200 MODULE

ID	DESCRIPTION	INCIDENCE*
1	OPEN CELL PANEL	1,4 pcs/sqm
2	WALL ANGLE	1 lm/sqm
3	HANGERS	1 pcs/sqm
4	CARRIERS (1200 mm pitch)	0,85 lm/sqm
5	SPACERS (2400 mm pitch)	0,42 lm/sqm

* Component incidences see schedule on page 1

ANTISEISMIC EQUIPMENTS

According to the NTC 2018, when the non-structural element is assembled on site: structure designer is in charge of identifying the request, the supplier and / or installer is in charge of providing elements and connection systems of adequate capacity, the project manager is in charge of verifying the accuracy of installation". Therefore it is necessary to communicate to Atena the stresses acting on the false ceiling (seismic acceleration, wind load,..) in order to allow a proper calculation of the single elements. For more information on Atena's anti-seismic systems, contact the reference sales offices. The documentation on the site is for example only. (NTC 2018 § 7.2.3-7.2.4).

Continuous open cell ceilings are not suitable for use in areas with seismic risk.

Where anti-seismic open cell ceilings are required, we recommend BASE 4 open cell panel with EASY ANTISEISMIC T24 structure.
Contact the Atena S.p.A. technical department to define the appropriate sizing.

INCIDENCES

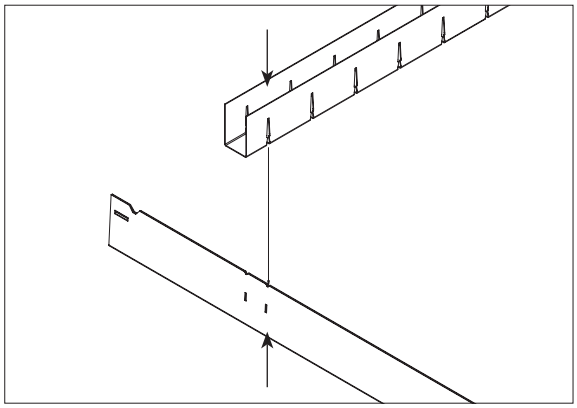
MODEL*	RECTANG. MESHES	OPEN AREA	600x1200 PANEL ELEMENTS QUANTITY				CARRIER						SYSTEM
			TM 1200 mm	TF 600 mm	LM/SQM	KG/SQM	MODEL	PITCH mm	1200 mm		2400 mm		
									LM/SQM	KG/SQM**	LM/SQM	KG/SQM**	KG/SQM
BASE 4 H30 SC DUALGRID	30x180	79,44%	20	6	76,67	5,81	TSC30	30	0,85	0,44	0,42	0,22	6,62
	30x270	81,85%	20	4	73,33	5,59	TSC30	30	0,85	0,44	0,42	0,22	6,39
	40x180	82,50%	15	6	60,00	4,68	TSC40	40	0,85	0,44	0,42	0,22	5,48
	40x270	85,00%	15	4	56,67	4,45	TSC40	30	0,85	0,44	0,42	0,22	5,26
	50x180	84,33%	12	6	50,00	4,00	TSC50	50	0,85	0,44	0,42	0,22	4,80
	50x270	86,89%	12	4	46,67	3,77	TSC50	50	0,85	0,44	0,42	0,22	4,57
	60x180	85,56%	10	6	43,33	3,54	TSC30	60	0,85	0,44	0,42	0,22	4,35
	60x270	88,15%	10	4	40,00	3,31	TSC30	60	0,85	0,44	0,42	0,22	4,12
	100x180	88,00%	6	6	30,00	2,63	TSC50	100	0,85	0,44	0,42	0,22	3,44
	100x270	90,67%	6	4	26,67	2,40	TSC50	100	0,85	0,44	0,42	0,22	3,21
	120x180	88,61%	5	6	26,67	2,40	TSC30 | TSC40	120	0,85	0,44	0,42	0,22	3,21
	120x270	91,30%	5	4	23,33	2,18	TSC30 | TSC40	120	0,85	0,44	0,42	0,22	2,98
	150x180	89,22%	4	6	23,33	2,18	TSC30 | TSC50	150	0,85	0,44	0,42	0,22	2,98
	150x270	91,93%	4	4	20,00	1,95	TSC30 | TSC50	150	0,85	0,44	0,42	0,22	2,76

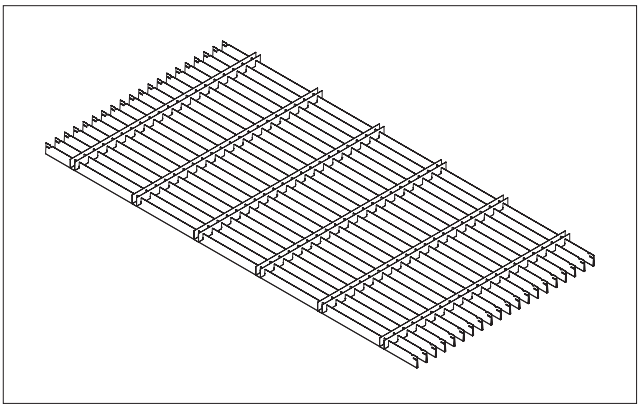
* Swinging side at 600 mm only. | For specific project requirements, the hanger incidence may vary. Please check with the Atena S.p.A technical department.
** The weight includes the joints and the carriers used both as profile with 600 or 1200 mm pitch (in relation to the panel size), and as spacer with 2400 mm pitch.

All dimensions are nominal and expressed in millimeters.
All technical specification data and information can be changed without advise.
For further information please contact sales department:
tel. + 39 0421 75526 export@atena-it.com

INSTALLATION STEPS

- Before the installation of the metal ceiling, prepare the BASE 4 h30 SC DUALGRID panels using TF and TM elements provided creating the desired mesh.
  (If the panels are not provided already assembled)

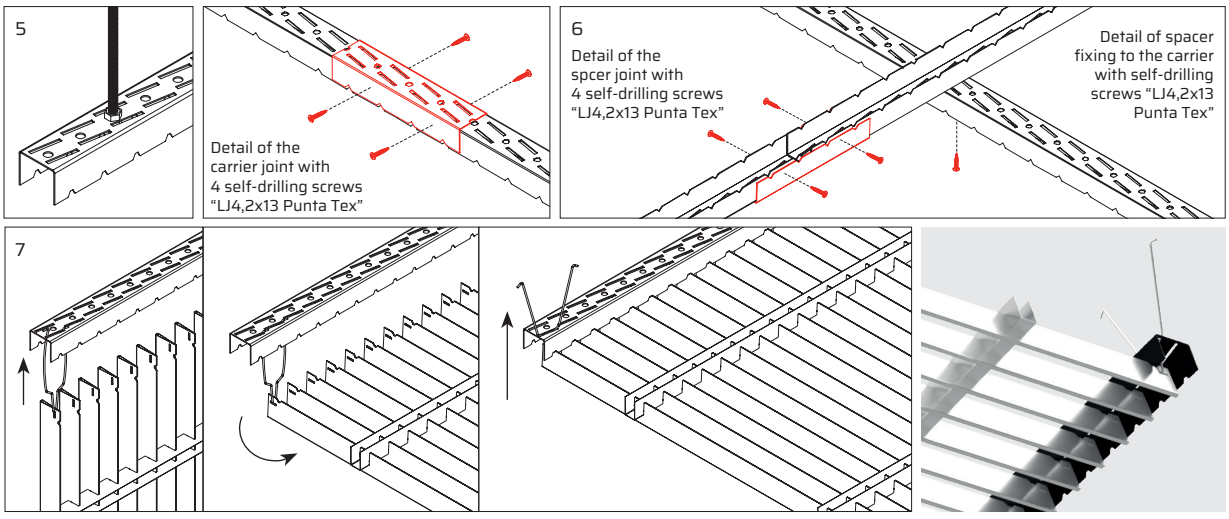




- Proceed with the installation of structure

1. Draw the lines of the perimeter frame.
2. Determine the height of the ceiling with a level and mark it with a string.
3. Install the wall angles with nails, screws and/or plugs suitable to the wall material.
4. Fix the hangers according to the type of ceiling to be installed*.
5. Fix the carriers to the hangers adjusting its height using a laser level.
6. Fix the spacers on the carriers with a distance of 2400 mm using “LJ4,2x13 Punta Tex” self-drilling screws.
7. Insert the hooking springs into the appropriate slots in the open cell panels. Complete the installation of the panels by hooking them on one side in a vertical position, then rotate them to allow them to be hooked on the other side*. The 600x1200 mm panels must be installed with sleepers with a 1200 mm center distance, therefore the modules must be hooked by inserting the first 2 springs on the 600 mm side. See axonometry on page. 3.

*verify **interaxes** and **hanger models** according to the load at m² the antiseimic report and particular conditions when required.
The **fastening** must be checked with regard to the loads, the anchoring base features and the installation accuracy, in order not to compromise the stability of the metal ceiling system. Lightings, accessories and systems must not weigh on the metal ceiling system, but must be independently suspended.



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CLEANING, MAINTENANCE AND REMOVAL INSTRUCTIONS

Cleaning and maintenance require some attention and care even though are easy to make and don't take much time. It is necessary to use warm water and neutral and non-abrasive detergents. Metal ceilings maintenance usually refers to: placement, alignment or replacement of damaged or broken modules (panels, staves, baffles, open cells) which can be also removed for restoration or maintenence of the system below.

In order to ensure an excellent results, the maintenance work must be carried out by specialised workers trained with technical data sheets about setting, removal and maintenance of the metal ceilings. Using inadequate tools can damage the bearing structure, causing adherence loss or even accidental modules fall. All the maintenance intervention must follow the technical data sheet instructions or specific information when provided and every diversity has to be promptly reported. Each worker charged with maintenance operation must carefully remove the modules, perform the intervention and do not alter the metal ceiling structure, the hanging system and the connection between these elements.

When the maintenance is over, modules must be installed again, checking that these are well hooked or positioned if they are lay-in/on on a visible structure and that the flatness of the assembly is guaranteed. Any difference in level is caused by wrong installation and, for this reason, the system must be quickly controlled.

STORAGE MODE

Materials supplied by Atena S.p.A. shall be maintained in good condition from purchase to installation. Materials must be stored in a closed, clean and dry site, not under direct light. Atena S.p.A. protects its products with resistant packaging under normal handling. Please handle packages with care to avoid shocks and inappropriate handling that might damage what is provided. The manual handling must be carried out with caution and in compliance with safety regulations at work. For carriage of packaged products on pallets, provide a mechanical transport to avoid damages or risks resulting from inadequate transport.

SUSTANABILITY AND SAFETY

All Atena metal ceilings are made with products that do not release dangerous substances into the environment including formaldehyde. Coating and / or sublimation are free from Volatile Organic Compounds (VOC). The products will be recyclable and as a whole manufactured using recycling processes materials, the recycled material percentage is calculated for each type of product, in compliance with CAM requirements and declared according to the ISO 14021 standard. The metal ceiling systems contribute to getting credits for the certification of building design, construction and sustainable and efficient management according to the LEED protocol and to the BREEAM and ITACA cross-cutting aspects.

FASTENERS

Atena supplies the hangers and accessories such as screws, washers and nuts to connect the elements of its own supply only. Lightings, accessories and systems must not weigh on the metal ceiling system, but must be independently suspended. The fastening must be checked with regard to the loads, the anchoring base features and the installation accuracy, in order not to compromise the stability of the metal ceiling system.

NORMATIVE REQUIREMENTS

Atena S.p.A. has adopted a quality management system in compliance with the UNI EN ISO 9001 standard.

All Atena metal ceilings are produced for indoor applications, in compliance with Technical Standards for Construction NTC 2018 and relative circular requirements, the Minimum Environmental Criteria CAM (Ministerial Decree 11 October 2017), the specific technical standards applicable UNI EN 13964 and 14195. Each Atena S.p.A. product has its own DOP (CE Declaration of Performance) according to the European Law for construction products 305/2011.

The performance properties declared in D.o.P. Declarations of Performance provided by Atena S.p.A. are guarantees, if the metal ceiling is installed in the environment conditions for which it has been conceived and the recommended maintenance is executed.

Precisely, metal ceilings are non-structural construction elements therefore they must be properly sized in order to withstand with adequate safety against all actions that can stress the building, such as, but not limited to, earthquakes, winds, thermal expansion, humidity, etc., in relation to the installation site, the building use and the project technical features. Check with Atena technical department the specific environmental conditions to which the product will be subjected, in order to choose the most suitable materials for the installation site.

In the case of outdoor installation, the metal ceilings are not covered by an harmonized technical standard, therefore they are not subject to the regulation 305/2011. They are in any case subjected to the NTC 2018 and to the safety checks of civil constructions, and must be properly sized according to the installation site environmental conditions, to the structural features and to the project specifications.

Indipendently by information, suggestions, advices and technical opinions exchanged between the parts, during pre-agreement negotiations Atena S.p.A. will manufacture the products only according to the orders received and the technical drawings/projects attached, having no responsibility on what is not indicated in the order, in the technical drawings or in the project.

All rights are reserved and subject to industrial protection. Changes to the illustrated products, even if partial, can be carried out only if explicitly authorized by the company Atena S.p.A. All data provided and illustrated are indicative and Atena S.p.A. reserves the right to make changes at any time according the business needs and the production processes.

The information contained in this following sheet must to be considered updated at the date of writing. Changes in product performance occurred after that date may affect the accuracy of the data sheet: it is compulsory for users to make sure to have the latest version of this sheet.

WARRANTY

Atena S.p.A. as a manufacturer, covers the manufacturing defects of its products; Except as provided in the specific warranty extensions, the warranty period is one year from delivery of goods. Any complaints must be communicated in accordance with the sales terms and conditions.

The Atena metal celings system components have been conceived for this purpose only, any other use is considered improper.