Drywalls Ceilings Systems

Gypsum Ceilings Systems

SYSTEM COMPONENTS
ASSEMBLY & FINISHING

SYSTEM (ZC 200)



BRINGING
PLASTERBOARD
TO LIFE



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ZC200 System - Frame Installation

1- Affix Perimeter Angle to the structure at the the entire perimeter of the ceiling (including any columns or obstruction within the ceiling, Fixed at 600mm centers using appropriate tool.(Allow for board depth when positioning the channel (CH45).

2 - Position Angle section OR Threaded rods at a maximum of 1200mm centers and fixed to the structure using Angle fixing brackets OR steel Anchor, with threaded rods and appropriate fixing.
Note: that Hangers should be at a maximum of 300 - 400mm from the ceiling perimeter.

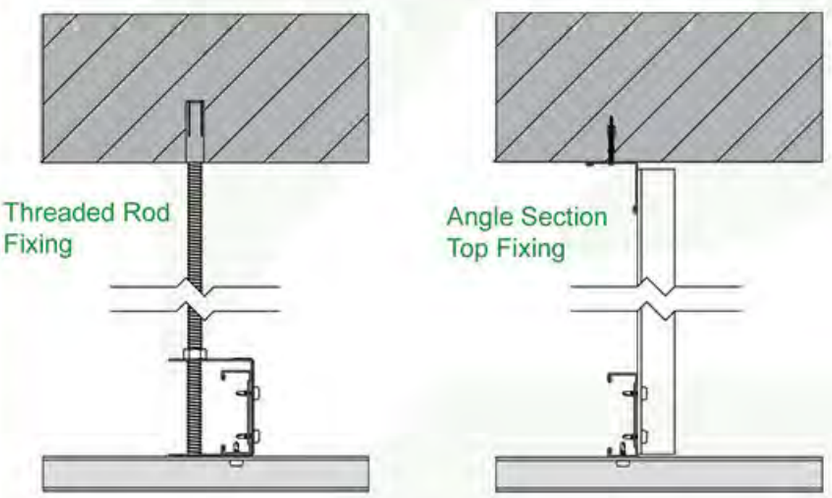
ALZAHABIA Hanging Angle Section may be used to fix directly to the soffit for single boarding solutions only.
- The Angle section must be snipped at the one end with each side overlapped inwards on the top of each other as illustrated below. (FIGURE A)

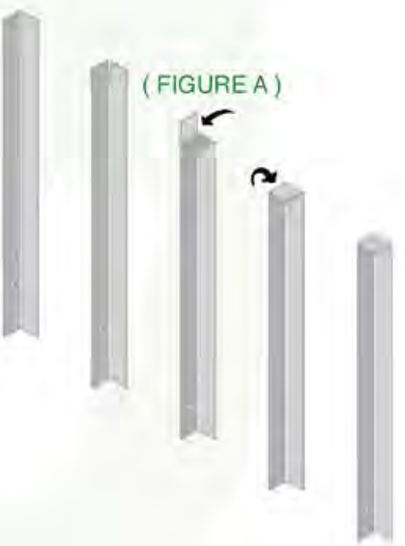
3- Position Primary Channel (CH45) at a maximum of 1200mm centers and Fixed to the Angle sections using (UB38) Bracket with Rod Or using appropriate fixings.
Note: that Centers are based on minimum loading requirements and should be confirmed with the designer (maximum 1200mm). Primary channel must over lap by a minimum of 150mm at joints.

4 - Position Furring Channel (O20) into the perimeter angle at a maximum of 600mm centers and fixed at right angels to the Primary Channel. Primary channel must be overlap by a minimum of 150mm at joints.

- Furring Clips can be used for positioning purposes, however screw fixing of ceiling channel to the primary channel is recommended. (See Section On Ceiling Lift)

Alternative Methods for Hanging The Main Channel





THE CORRECT METHODS FOR SPLICING PROFILES.

CH45

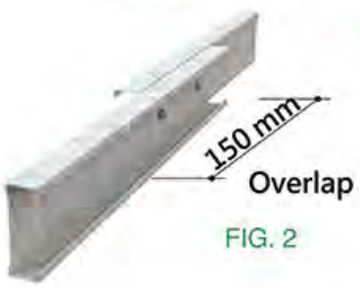


FIG. 2

Furring Channel

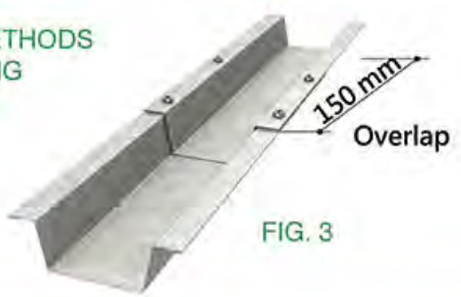


FIG. 3

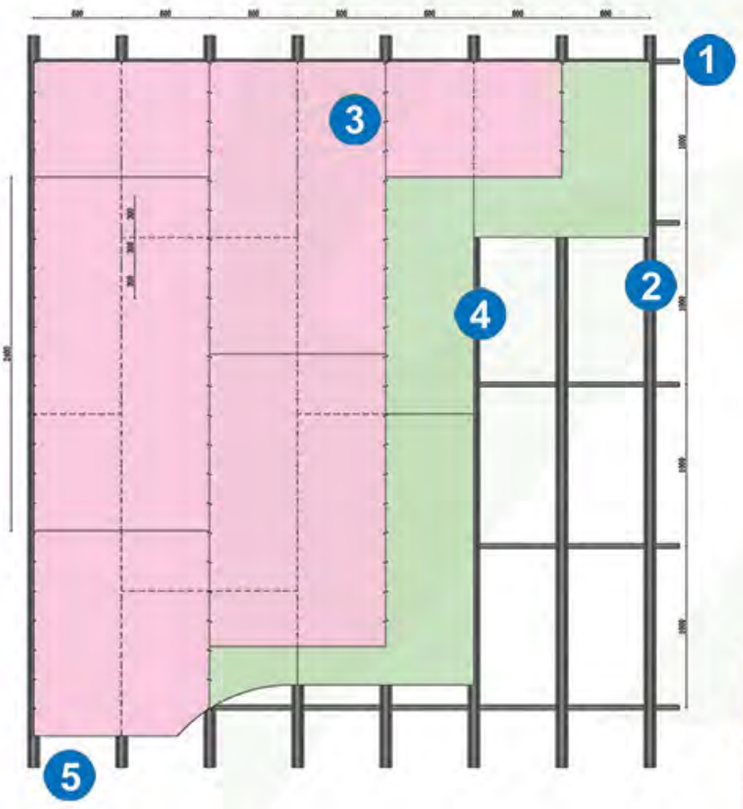
ZC200 System - Plasterboard Installation

SINGLE LAYER PLASTERBOARD

- Bound edges must be fixed at right angles to the ALZAHABIA ceiling Channel with joints lightly butted together.
- All boards should be staggered by half a board length, joining at the center of Ceiling Channel.
-The plasterboardsis screw-fixed to the Ceiling Channes as per layout indicated below.

DOUBLE / MULTIPLE LAYER PLASTERBOARD

- All board joints must be staggered between layers whilst also ensuring that joints between boards occur at the center of the ALZAHABIA Ceiling Channel.
- Each layer should screwfixed directly to the Ceiling and Perimeter Channels, avoiding the screws in the layer(s) underneath.



1 - PRIMARY CHANNEL

2- SECONDARY CHANNEL
150mm minimum overlap

3- SCREW FIX CUT END
of the boards to the Secondary Channel at 150mm center

4- DOUBLE/MULTIPLE LAYER
boarding stagger joints and fixing between layers

5- PAREMETER ANGLE





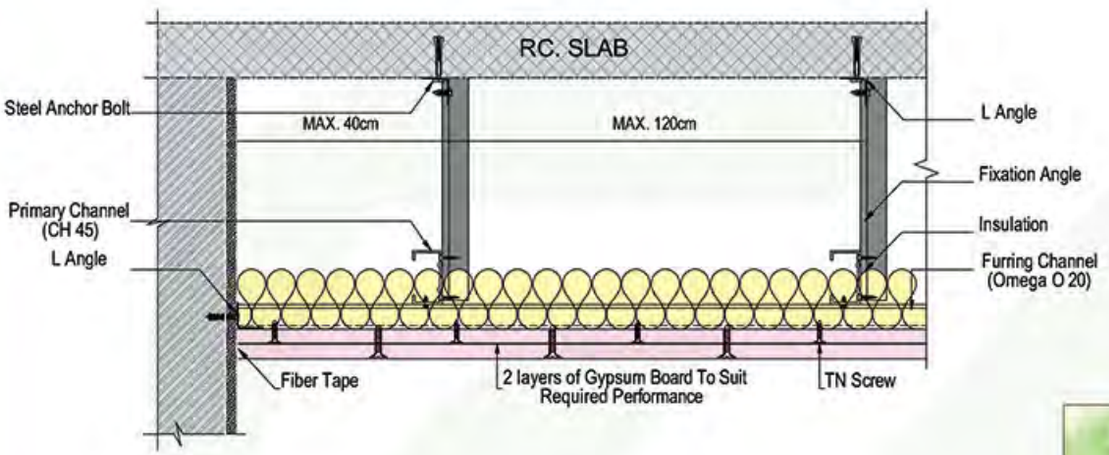


Environment Friendly Products

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ZC200 System FIRE RESISTANCE

ALZAHABIA Ceiling Systems have been tested to BS476 requirements.
A 60 minutes fire rating has been obtained between the ceiling & the void based on the build up illustrated in the drawing below.

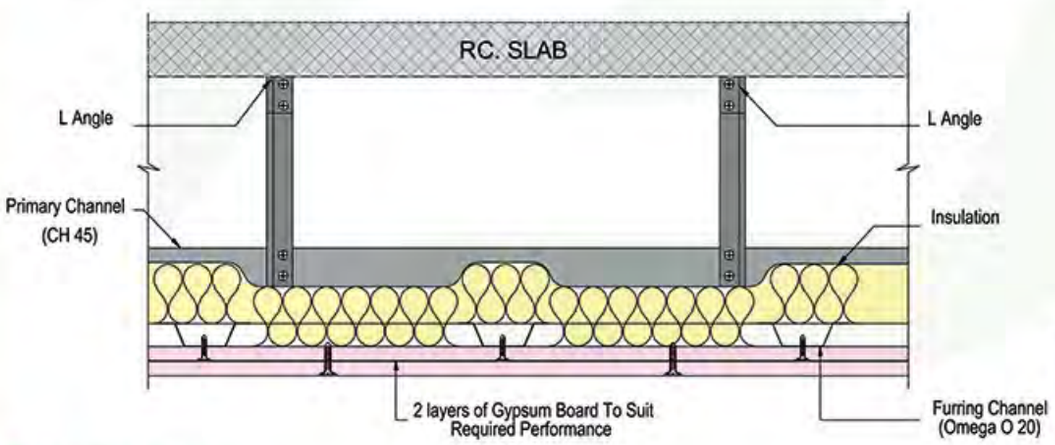




Environment Friendly Products

INSULATION

Depending on the type of insulation required to meet both Acoustic & Thermal performance requirements, It is recommended to install the insulation in a continuous layer between the Primary Channels and over Ceiling Channels and Boards.





Taping and Jointing :

Taping and Joining is a 3 stage process:

1- Tape the Plasterboard joints first with self-adhesive fibre tape .
2- Apply the 1st coat of Joint Filler, After the Joint Filler sets (Approximately within 90 minutes).
3- Apply 2 coats of Joint Filler.
4- When the 2nd coat of Joint Filler is completely dry (this usually takes 24 hours depending on site temporary and air flow) sand it down with Vacuum Sanders to minimize the dust in building site.
5- After sanding, the Taping and Jointing can be painted in the same way as traditional plastering.
6- Apply Corner beads or metal tapes to all external corners and then tape and joint with a 3 coats process as described in the illustration. (SEE FIGURES ON PAGE 12 ZC 100)

Systems - MECHANICAL PROPERTIES

PROFILE NAME	Height	Thickness	Area of Section	Centroid		Moment of Inertia		Elastic Section Modulus		STEEL MECHANICAL PROPERTIES Yield Strength	Tensile Strength	Elongation
	h	t	A	ex	ey	Ix	Iy	Sx 'min'	Sy	Fy	Fu	(%)
OMEGA O20	mm	mm	mm2	mm	mm	mm4	mm4	mm3	mm3	N/mm2	N/mm2	
	20	0.5	50.5	32.5	8.9	3195	19882	525	612	235	360-510	15-18
	20	0.6	59.9	32.5	8.8	3741	23241	607	715	235	360-510	15-18

PROFILE NAME	Thickness	Area of Section	Centroid		Moment of Inertia		Elastic Section Modulus		STEEL MECHANICAL PROPERTIES Yield Strength	Tensile Strength	Elongation
	t	A	ex	ey	Ix	Iy	Sx	Sy 'min'	Fy	Fu	(%)
MAIN CARRIER CH38	mm	mm2	mm	mm	mm4	mm4	mm3	mm3	N/mm2	N/mm2	
	0.5	31.0	2.7	19.0	6385	364	336	39	235	360-510	15-18
	0.6	37.1	2.7	19.0	7595	431	400	46	235	360-510	15-18

PROFILE NAME	Thickness	Area of Section	Centroid		Moment of Inertia		Elastic Section Modulus		STEEL MECHANICAL PROPERTIES Yield Strength	Tensile Strength	Elongation
	t	A	ex	ey	Ix	Iy	Sx	Sy "min"	Fy	Fu	(%)
MAIN CARRIER CH45	mm	mm2	mm	mm	mm4	mm4	mm3	mm3	N/mm2	N/mm2	
	0.5	48.9	6.6	22.5	15883	2751	706	205	235	360-510	15-18
	0.6	58.5	6.6	22.5	18887	3250	839	243	235	360-510	15-18

PROFILE NAME	Thickness	Angle Size	Area of Section	Centroid	Moment of Inertia	Section Modulus	STEEL MECHANICAL PROPERTIES Yield Strength	Tensile Strength	Elongation
	(mm)	(mm)	(mm)	(mm)	(1X) (mm2)	(5X) (mm2)	N/mm2	N/mm2	%
PERIMETER ANGLE GA	0.45	25/25	22.05	6.36	1433	76.90	297-308	366-372	28-29
	0.50	25/25	24.50	6.38	1589	85.32	297-308	366-372	29-30
	0.55	25/25	26.95	6.39	1744	93.69	297-308	366-372	29-30
	0.60	25/25	29.40	6.40	1898	102.00	297-308	366-372	29-30

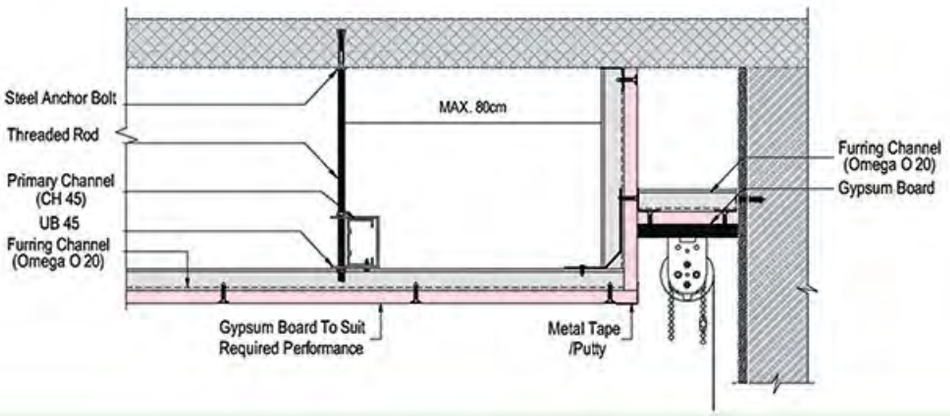


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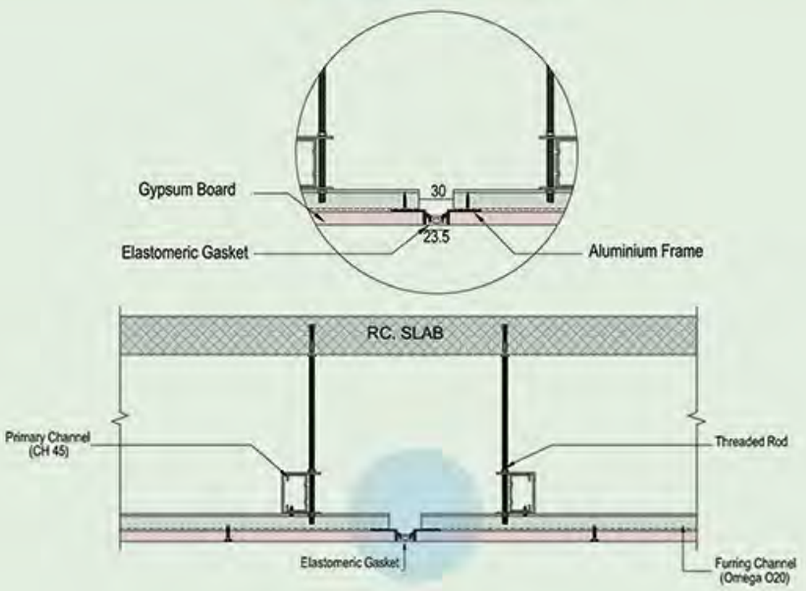
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ZC200 System -GENERAL APPLICATIONS DETAILS

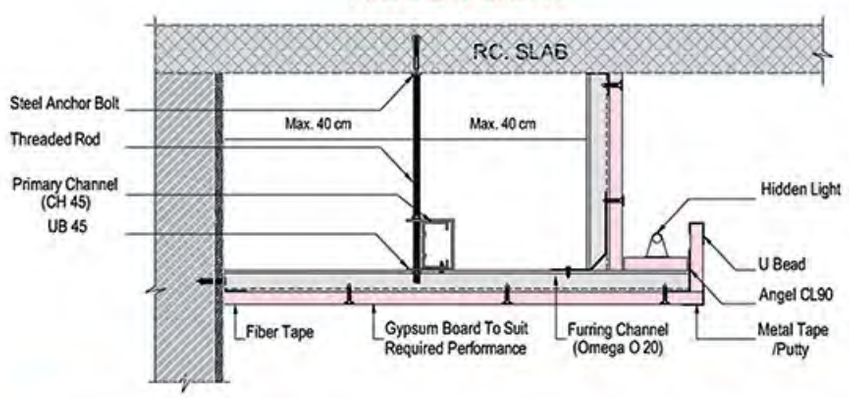
CURTAIN COVE



EXPANSION JOINT



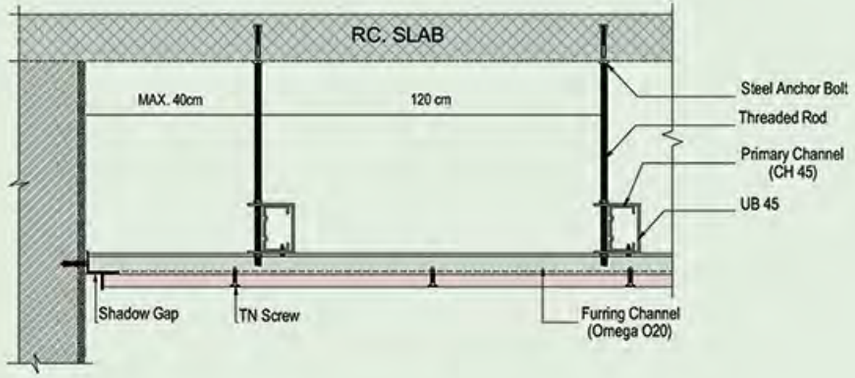
HIDDEN LIGHT



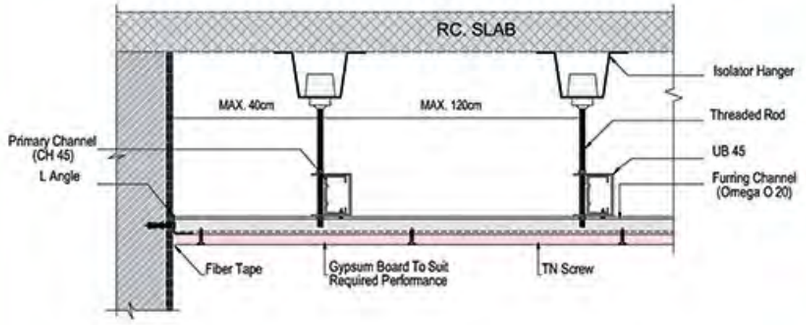
CEILING SYSTEM (ZC 200)

CEILING SYSTEM (ZC 100)

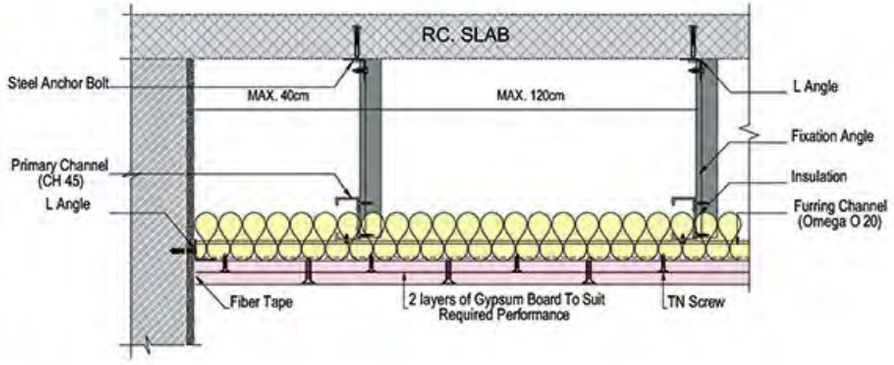
ZC 200 SHADOW GAP



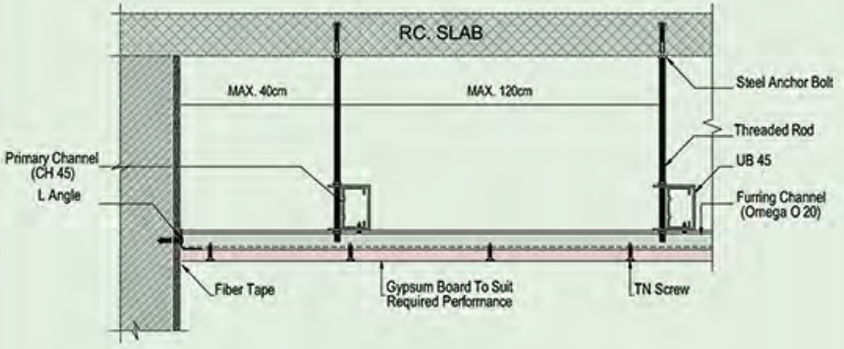
ISOLATOR HANGER (GS200)



ZC 200 FIRE RATED CEILINGS

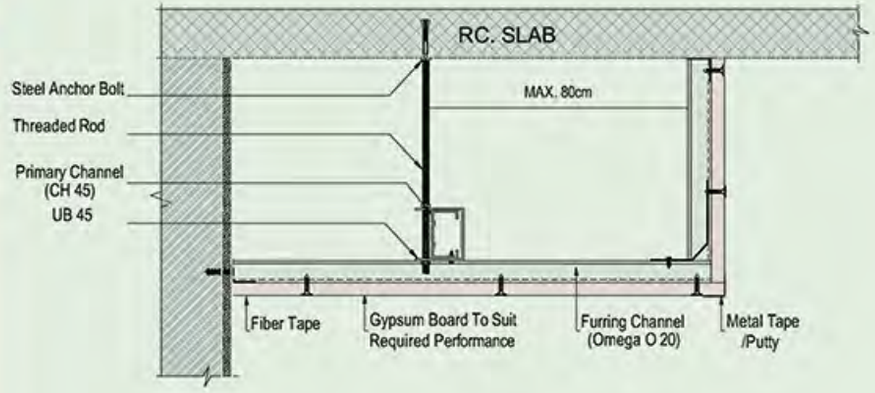


ZC 200 FLAT

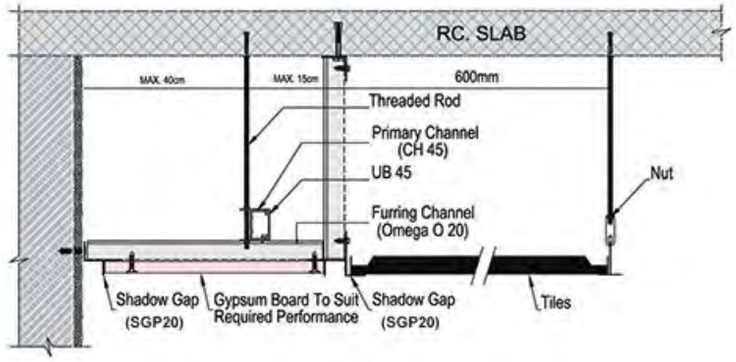


CEILING SYSTEM (ZC 200)

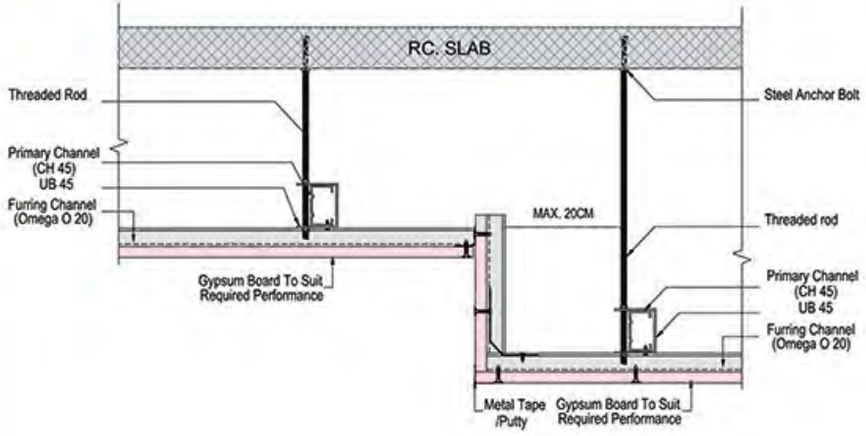
BULK HEAD DETAILS



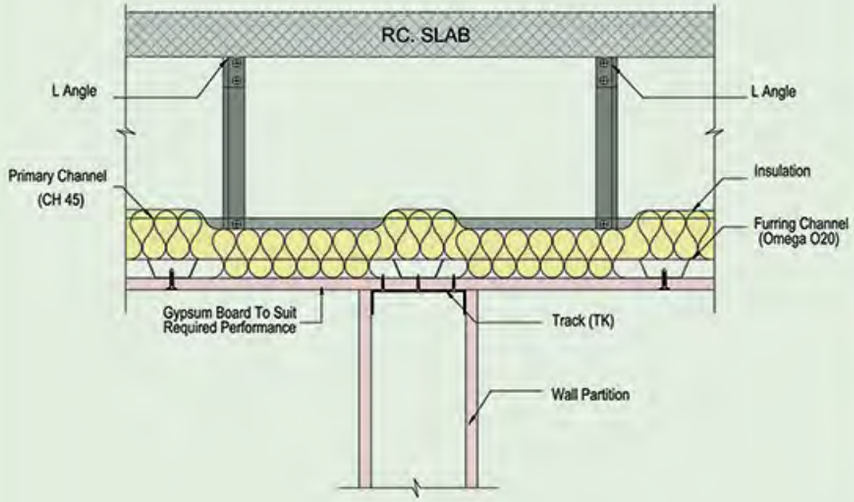
GYPSUM WITH TILES AT THE SAME LEVEL USE (SGP20)



BULK HEAD DETAILS



JUNCTION OF PARTITION (HEAD TO CEILING)



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MATERIAL

ALZAHABIA profiles are fabricated from hot-dipped galvanized steel complying with ASTM A653, and ASTM A1003, Grade 33 Type H for 33 ksi yield strength steel with a minimum G40 coating complying with ASTM A924.
(other coatings are available up to G90 upon client request).

- Minimum Thickness represents 95% of the design thickness requirements, which is the minimum acceptable thickness of the base steel delivered to the work site.

Fire Resistance

All Profiles Made and or provided by ALZAHABIA are manufactured from non-combustible components; Our systems enjoy a wide range of elements of fire resistance ratings (up to 120 minutes) to meet design requirements.
Comply with ASTM E119 (Tec Office)



Visual Tests

1- All our ceiling sections Conform to ASTM C645.
2- The furring channel is unique for having grooves that prevent the screws from deviating from its direction.
3- All profiles are straight and free of any twists.

Economical

Low material costs, dry construction and speed of installation achieve realistic and competitive construction costs.

Sound Isolation

Available ratings range up to STC 64, as achieved in acoustic tests (Tec Office). Comparable field performance depends on building design and careful attention to detailing and workmanship. It is important that the full perimeter of the wall lining be sealed with an approved flexible acoustic sealant, as well as all penetrations.



The effectiveness of sound isolation depends on:
1- The use of proper insulation above the suspended ceiling.
2- The number of Gypsum Boards used.
3- The use of (IS200) isolator hanger especially in mechanical rooms.

HRC High recycled content

Steel contains 85 % (post-consumer 75% & pre consumer 10%) and the rest is virgin iron metal in the form of DR/HBI. 70-75 % of scrap used delivered from international suppliers. 25-30 % from local suppliers. (collected from Cairo, Delta, Port Saied, Suez, and Alexandria).



Loading System

Maximum Load Bearing for Dry Wall ceiling systems:

Maximum Primary Carrier centers	Maximum Loading Including System frame and Boards			
	ZC100		ZC200	
	Furring channel Centre 60cm	Furring channel Centre 40cm	Furring channel Centre 60cm	Furring channel Centre 40cm
1200	38	43kg/m²	52	56kg/m²
1000	58	62kg/m²	64	68kg/m²
900	64	69kg/m²	73	78kg/m²

Results based on ASTM C635 test ,The system thickness is 0.5mm
Based on Allowable deflection 3.6mm.
Spacing between Hanging point 100cm.

The System Comply with ASTM C645 & ASTM C754



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