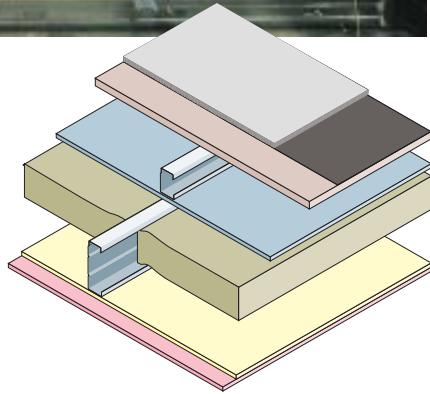




# Drylining for light gauge structural steel



Two companies with one concept



Ayrshire  
Steel Framing



Fully certificated systems

# STRUCTURAL DRYWALL SYSTEMS



## TWO COMPANIES A SHARED CONCEPT

Two companies, acknowledged leaders in their respective fields, have teamed together in the development of a construction concept that combines the structural strength and precision of Ayrshire steel framing with the design potential, quality of finish and performance of Lafarge plasterboard.

## AYRSHIRE STEEL FRAMING

Ayrshire Steel Framing is a division of Ayrshire Metal Products plc, the UK's leading manufacturer of cold formed steel sections. Ayrshire's lightweight steel framing systems comprise precision-engineered steel studs and joists, which effectively replace traditional building materials in walls, floors and ceilings. The benefits are enormous - increased loadbearing capacity, light weight, increased accuracy, time savings, and reductions in waste.

Ayrshire's most recent innovation - AyrFrame - is a lightweight prefabricated modular system aimed at meeting the latest demands of the building industry for greater quality, precision and speed on construction sites.



## LAFARGE PLASTERBOARD

Lafarge is a leading international force in construction materials and is active in over sixty countries throughout the world. Lafarge Plasterboard combines the strength of Lafarge worldwide with an in-depth knowledge of the gypsum industry, from materials extraction to final installation.

Lafarge Plasterboard is a leader in the manufacture of standard and high-performance plasterboards. It is renowned for its innovative integrated drywall systems which provide the benefits of design versatility, high performance and speed of installation.



Ayrshire Steel Framing and Lafarge Plasterboard reserve the right to revise product specifications without notice. The information given in this publication is correct to the best of our knowledge, but users must satisfy themselves regarding the suitability of any product, system or detail for a specific application.



## THE CONCEPT - STRUCTURAL DRYWALL SYSTEMS

Ayrshire/Lafarge structural drywall systems comprise a range of advanced construction solutions for a variety of applications, encompassing the structural support of Ayrshire Steel Framing and the high performance finish of Lafarge plasterboards.

Systems featured in this brochure include:

- Loadbearing partitions
- Loadbearing separating walls
- Curtain walling
- Mezzanine floors
- Domestic separating floors
- Non-loadbearing division walls in industrial buildings
- AyrFrame modules

## BENEFITS

Ayrshire/Lafarge structural drywall systems provide the means to create high-performance lightweight construction solutions with important benefits:

- Greater loadbearing capability
- Increased partition heights
- Wider floor spans
- Better fire resistance
- Improved sound resistance
- Higher thermal insulation

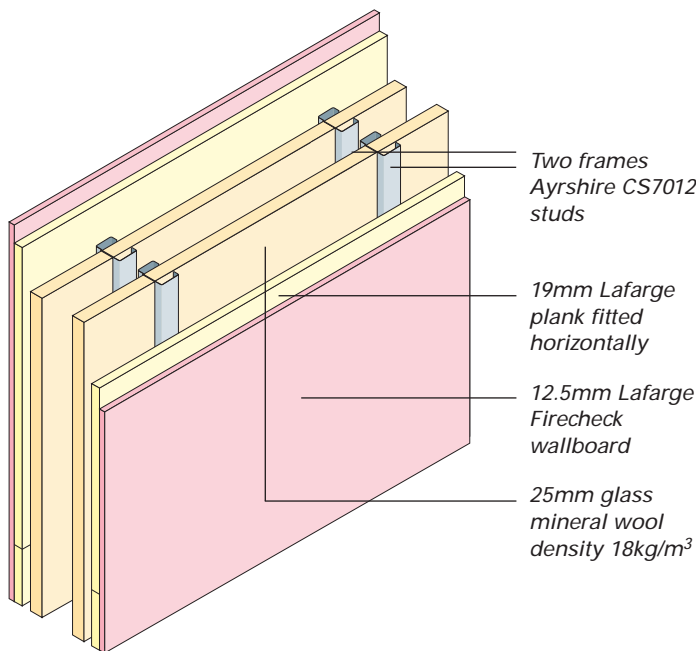


## FULLY CERTIFICATED SYSTEMS

Specifiers can have confidence in the fact that all systems featured in this brochure have been individually and independently tested for performance and suitability. The results prove that the joint Ayrshire/Lafarge concept maintains and builds on the reputation for excellence that each company has established independently. Full test details are available on request.

## QUALITY ASSURANCE

All products shown are manufactured in accordance with **BS EN ISO 9002: 1994.**



### Loadbearing party wall (see pages 6 and 10)

Note: all application details show typical arrangements.

# A construction concept for the new millennium



LIGHTWEIGHT STRUCTURAL STEEL SECTIONS AND PLASTERBOARD FINISHES REPRESENT THE WAY FORWARD FOR THE CONSTRUCTION INDUSTRY IN THE 21ST CENTURY.

The shared Ayrshire/Lafarge concept is much more than the sum of its parts.

The combined experience and expertise of these two companies has created a dynamic synergy of ideas which is spawning new developments on a regular basis.

With fresh eyes on each task, from different technical backgrounds, new solutions are emerging with higher precision, efficiency and performance than was previously thought possible.

These qualities are essential if the construction industry is to meet the Egan Report recommendations for improving construction standards. In fact, the key 'drivers for change' identified in Egan's report, which include integrated processes and teams, and a quality-driven agenda, have been wholeheartedly incorporated into the ethos of the Ayrshire/Lafarge team.

Ayrshire's cold-formed structural steel sections and Lafarge's extensive range of plasterboard products offer such a high degree of accuracy, economy, strength and durability that they are virtually unbeatable in today's building industry.





## TECHNICAL BENEFITS

Ayrshire/Lafarge high performing structural drywall systems are bringing distinct advantages to the whole building team:

- Loadbearing capacity up to 37kN per stud at 6m height - for supporting intermediate floors and roofs
- Partition heights up to 18m - ideal for industrial applications
- Floor spans up to 7.8m - enabling the economic and speedy formation of mezzanine floors
- Up to 120 minutes fire resistance - to meet compartmentation requirements
- Sound insulation up to 75R<sub>w</sub>dB with twin frame triple skin partitions - ideal for isolating multiplex cinemas from the outside world and from each other
- U-values down to 0.3W/m<sup>2</sup>K - for curtain walls and cladding.



## FAST TRACK CONSTRUCTION AND PREFABRICATION

The Ayrshire/Lafarge system is ideally suited to fast-track construction and prefabrication - bringing mass production techniques to the building site.

Cold-formed lightweight galvanised steel framing and plasterboard finishes are dimensionally accurate, extremely robust, non-combustible, are quick to install, and involve no wet trades. These properties make Ayrshire/Lafarge systems ideal for use in prefabricated panels or modules, which bring great efficiency savings and quality improvements.

With factory assembled units, construction is no longer dependent on the weather, waste is eliminated and quality standards can be guaranteed.

Whole buildings can be fully assembled in a matter of days, in contrast with weeks or months for inefficient masonry construction or timber frame, with their inherent variations in quality and accuracy. And with modular systems all the internal finishes and fittings can be applied in factory-controlled conditions, bringing the prospect of defect-free buildings.

Ayrshire/Lafarge structural drywall systems are now leading the way in implementing these techniques in the UK.

**LOADBEARING PARTITIONS**

Loadbearing partitions are quickly and accurately constructed using the Ayrshire/Lafarge system, either on site, or for the highest standards of speed and efficiency, factory assembled panels.

Loadbearing structures must be adequately braced for stability.

Under severe wind loading or in regions subject to seismic forces, additional bracing may be required.

Flat straps in different sizes are provided to achieve both vertical and lateral bracing in conjunction with solid blocking at specified locations.

Lintels above door and window openings may be formed in various ways, using a combination of joists and channels, to support the design loads.

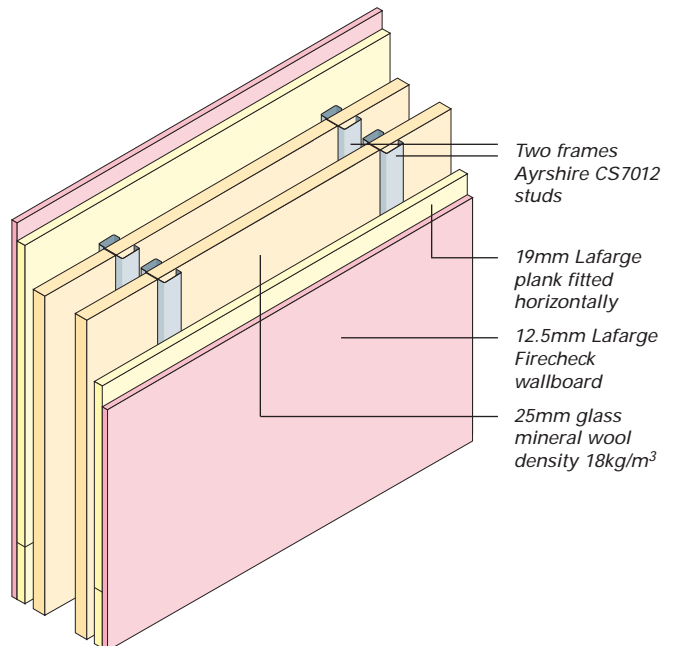
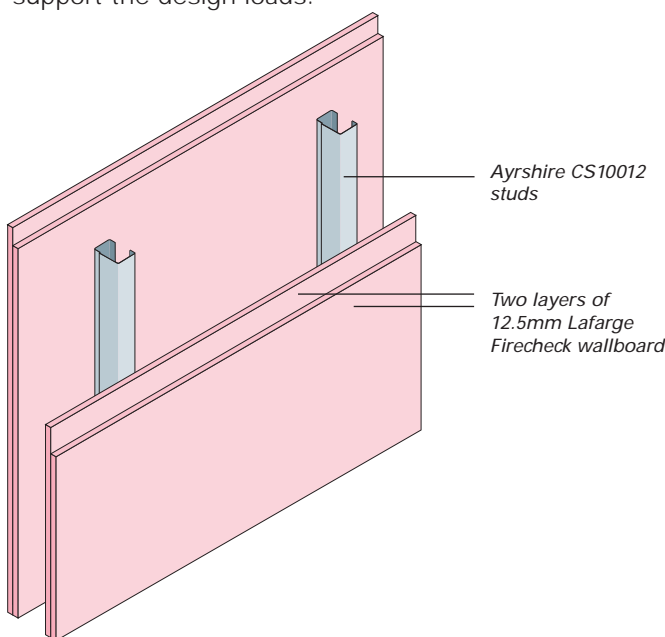


**LOADBEARING PARTY WALLS**

Meeting the fire protection requirements of the Building Regulations is simple with the Ayrshire/Lafarge system.

Fire ratings up to 90 minutes may be achieved in separating or party walls up to and above 10m high. The system is strong, accurate and fast-track, minimising down time and disruption, thus saving costs for building owners. In addition to providing fire separation, which is the prime requirement in industrial buildings, sound insulation up to 66R<sub>w</sub>dB can be achieved, making the system ideal also for cinemas and auditoria.

The system comprises Ayrshire steel studs with a choice of Lafarge plasterboard options, depending on the fire and acoustic standard required. Mineral wool insulation and a range of acoustic and fire resisting sealants complete the system.



Ayrshire/Lafarge system ref: **RLB5** ..... **RLB8** .....

Note: See pages 10 - 13 for complete range of Ayrshire/Lafarge systems

## RAPID DRY ENVELOPE SYSTEM

The Ayrshire/Lafarge system may be used as the basis for a variety of curtain walling and external cladding applications, from infill panels to external insulation and rainscreen cladding systems.

The steel studs can be installed either inside or outside the building structure, to the full height of the building. A variety of materials may be used for the external cladding.

Stud cavities must be filled at each floor level with mineral wool slabs to prevent the transmission of fire and sound.

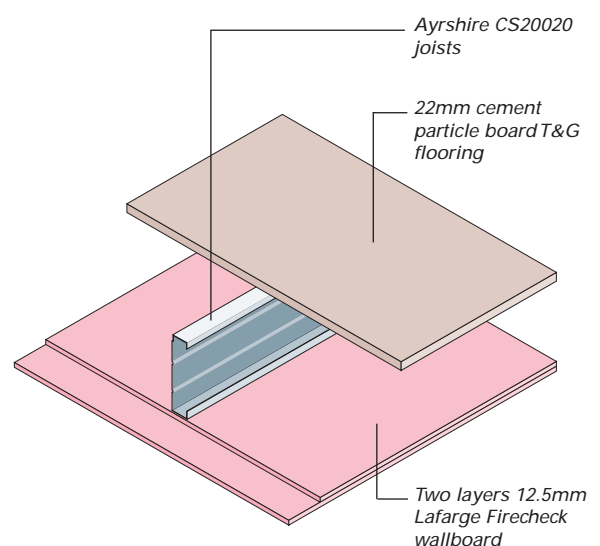
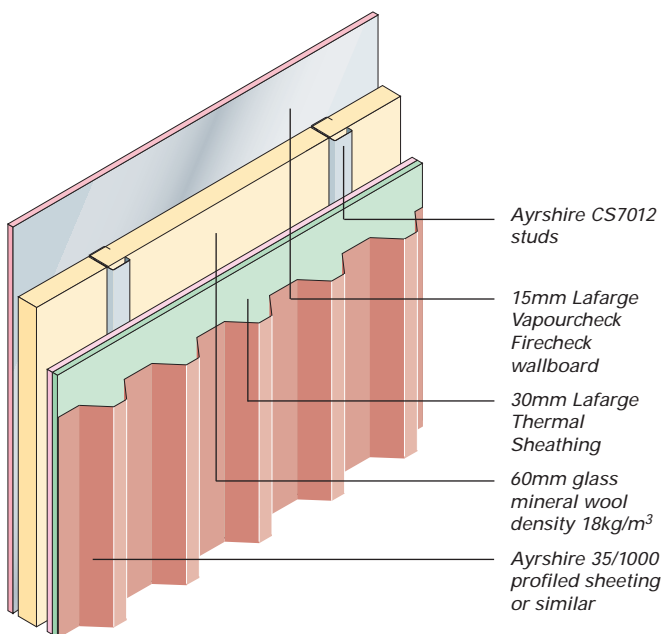


## MEZZANINE FLOORS

For speed and accuracy in installing mezzanine floors there is nothing to beat the Ayrshire/Lafarge system. For the ultimate in speed, factory assembled floor panels, which are simply craned into position and bolted together, may be used.

Alternatively, floors are easily constructed on site. Floor joists are simply positioned on loadbearing partitions with the webs aligned with those of the wall studs. Joist ends are located in closure channels and web stiffeners are inserted where required.

Lateral bracing is fitted to the underside of the joists and the tops restrained by the floor decking.



RXW2

RMF3

## COMPARTMENT FLOORS

Compartment floors to achieve both acoustic separation and fire resistance are easily formed using the Ayrshire/Lafarge system.

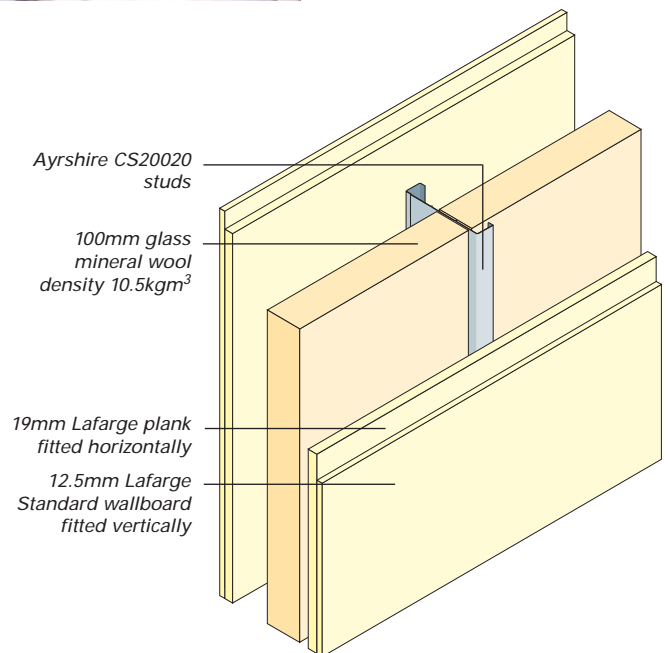
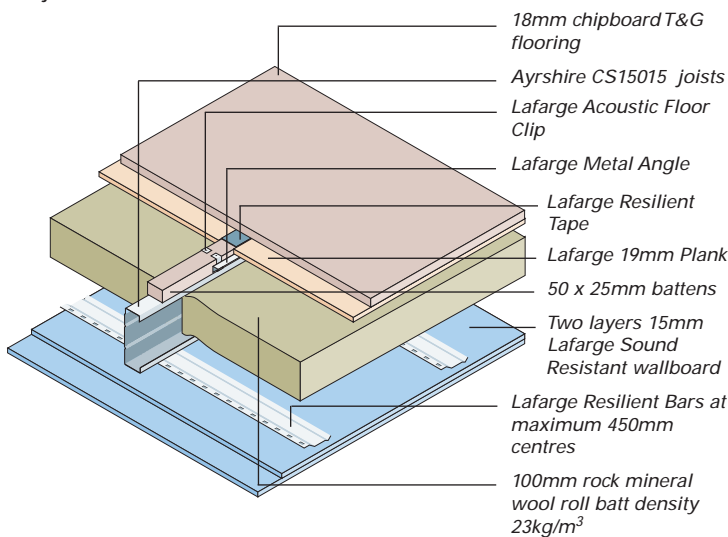
The system uses two main elements:

1. an acoustically isolated floor deck achieved with clips, angles and resilient tape supported on timber battens fixed to metal joists, and
2. an acoustically isolated plasterboard ceiling achieved with resilient bars also fixed to metal joists.

Floor void insulation, and a flexible seal at wall junctions, completes the system.

To reduce structure-borne sound, the floor elements are isolated at the junction with perimeter walls and the gap filled with a flexible seal. Airborne sound is reduced by sound insulation quilts located between the joists.

This form of construction can achieve airborne sound resistance of more than 60R<sub>w</sub>dB and impact sound resistance greater than 56R<sub>w</sub>dB, with 60 minutes fire resistance.



## NON-LOADBEARING DIVISION WALLS IN INDUSTRIAL BUILDINGS

Lightweight non-loadbearing walls for dividing industrial units and warehouses can be built up to 18m high. Because of their light weight, they can often be built off existing floor slabs without the need for additional foundations.

Stud walls can be clad with either one or two layers of Lafarge plasterboard, depending on the level of fire or sound resistance required.

Division walls are designed to withstand wind loads. Lateral bracing is required at regular intervals to both sides of the wall, as determined by the structural engineer, with solid blocking in every fourth column.

Ayrshire/Lafarge system ref: **RSF1** ..... **RDW3** .....

Note: See pages 10 - 13 for complete range of Ayrshire/Lafarge systems

## AYRFRAME MODULES

AyrFrame is a lightweight, high strength building system using the principles of aircraft construction to create speedily erected cellular buildings of the highest quality.



AyrFrame is most appropriate for repetitive cellular buildings such as hotels, nursing homes and apartment buildings. The system includes individual room modules as well as wall, floor and roof panels.

Modular buildings represent the fastest form of construction possible and typically reduce the length of construction contracts by 35% – leading to cost savings for the whole building team at the same time as raising quality and accuracy standards.

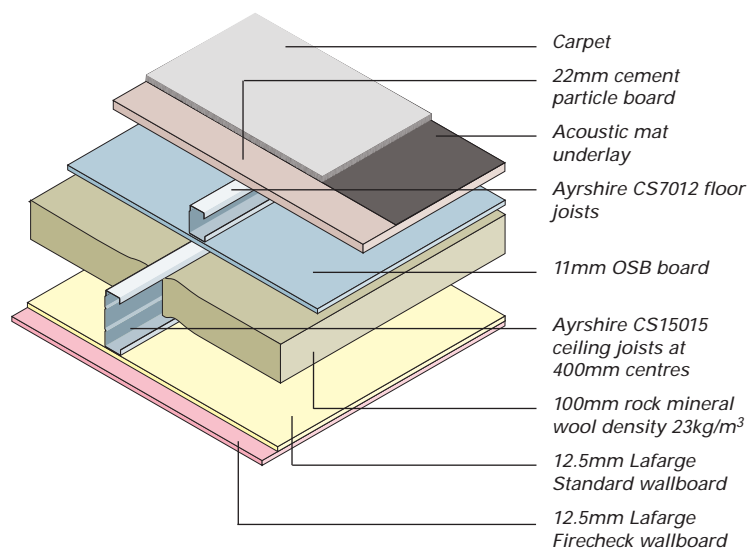
Frames are welded together in the factory from cold-formed galvanised steel sections. Window openings and interconnecting door assemblies are formed at this stage.

Floor decking of cement-bonded particle board is screw fixed to the floor frame and the top of each module is clad with bitumen-coated oriented strand board, which is taped and sealed to form a waterproof decking.

Walls and ceilings are lined internally with two layers of Lafarge plasterboard to provide excellent fire and acoustic performance. External facings of bitumen-impregnated fibreboard create a breathing wall and eliminate cold bridging problems.


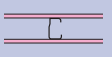

Insulation is installed to meet or exceed Building Regulations U-values, as required. Internal walls may also be insulated for acoustic reasons, and floors lined with acoustic mat underlay, for impact sound resistance.

Joinery, fittings and finishes can all be pre-applied in the factory leading to even higher quality control and further reductions in construction times.



VHF1

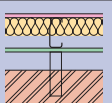
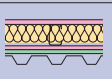

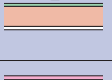
**Table 1 Loadbearing partitions**

Lafarge/ASF system reference	Description	Weight kg/m <sup>2</sup>
 RLB1	<b>Studs:</b> CS7012 at 600mm centres. <b>Boarding:</b> one layer each side - 15mm Lafarge Standard wallboard.	27
 RLB2	<b>Studs:</b> CS7012 at 600mm centres. <b>Boarding:</b> one layer each side - 12.5mm Lafarge Firecheck wallboard.	27
 RLB3	<b>Studs:</b> CS7012 at 600mm centres. <b>Boarding:</b> two layers each side - inner layer 12.5mm Lafarge Standard wallboard, outer layer 12.5mm Lafarge Firecheck wallboard.	45
 RLB4	<b>Studs:</b> CS10012 at 600mm centres. <b>Boarding:</b> one layer each side - 15mm Lafarge Standard wallboard.	28
 RLB5	<b>Studs:</b> CS10012 at 600mm centres. <b>Boarding:</b> two layers each side - 12.5mm Lafarge Firecheck wallboard.	48
 RLB6	<b>Studs:</b> CS15012 at 600mm centres. <b>Boarding:</b> three layers each side - 15mm Lafarge Firecheck wallboard.	80
 RLB7	<b>Studs:</b> CS7012 at 600mm centres. <b>Resilient Bar:</b> (horizontal) on one side only at 400mm centres. <b>Boarding:</b> two layers each side - 15mm Lafarge Firecheck wallboard. <b>Insulation:</b> 25mm glass mineral wool density 18kg/m <sup>3</sup> .	56

**Table 2 Loadbearing party walls**

Lafarge/ASF systems reference	Description	Weight kg/m <sup>2</sup>
 RLB8	<b>Studs:</b> two frames CS7012 at 600mm centres. <b>Boarding:</b> two layers each side - inner layer 19mm Lafarge plank fitted horizontally, outer layer 12.5mm Lafarge Firecheck wallboard fitted vertically. <b>Insulation:</b> 25mm glass mineral wool density 18 kg/m <sup>3</sup> in each stud cavity.	56
 RLB9	<b>Studs:</b> two frames CS7012 at 600mm centres. Furring runners FR4512 fitted horizontally at max 600mm centres. <b>Boarding:</b> two layers each side - inner layer 12.5mm Lafarge Standard wallboard, outer layer 12.5mm Lafarge Firecheck wallboard. <b>Insulation:</b> 25mm glass mineral wool density 18 kg/m <sup>3</sup> in each stud cavity.	46
 RLB10	<b>Studs:</b> two frames CS10012 at 600mm centres. <b>Boarding:</b> two layers each side - 15mm Lafarge Standard wallboard. <b>Insulation:</b> 80mm glass mineral wool density 11 kg/m <sup>3</sup> in each stud cavity.	57
 RLB11	<b>Studs:</b> two frames CS10012 at 600mm centres. <b>Boarding:</b> two layers each side - 15mm Lafarge Sound Resistant wallboard. <b>Insulation:</b> 75mm rock mineral wool density 33 kg/m <sup>3</sup> in both stud cavities.	62

**Table 3 Rapid dry envelope system**

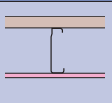
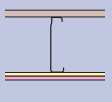
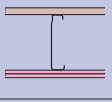
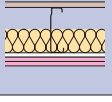
Lafarge/ASF system reference	Description	Weight kg/m <sup>2</sup>	Maximum height m
 RXW1	<b>Studs:</b> CS10015 at 400mm centres. <b>Boarding:</b> room side - 12.5mm Lafarge Vapourcheck Firecheck wallboard, cavity side - 12.5mm Lafarge Moisturecheck wallboard. <b>Insulation:</b> 60mm glass mineral wool density 10.5 kg/m <sup>3</sup> in stud cavity. <b>External face:</b> brick veneer tied to stud framing across 50mm cavity.	25	3.6
 RXW2	<b>Studs:</b> CS7012 at 600mm centres. <b>Boarding:</b> room side - 15mm Lafarge Vapourcheck Firecheck wallboard, cavity side - 25mm Lafarge Thermal Sheathing Board. <b>Insulation:</b> 60mm glass mineral wool density 10.5 kg/m <sup>3</sup> in stud cavity. <b>External face:</b> profiled sheeting.	27	4.2
 RXW3	<b>Studs:</b> CS15015 at 600mm centres. <b>Boarding:</b> two layers to room side - inner layer 12.5mm Lafarge Vapourcheck wallboard, outer layer 12.5mm Lafarge Firecheck wallboard. <b>External face:</b> 12.5mm Lafarge Moisturecheck wallboard to which is bonded 60mm expanded polystyrene finished with the Sto render system.	48	5.0
 RXW4	<b>Studs:</b> CS10012 at 600mm centres. <b>Boarding:</b> two layers to room side - inner layer 12.5mm Lafarge Vapourcheck wallboard, outer layer 12.5mm Lafarge Firecheck wallboard. Cavity side 25mm Lafarge Thermal Sheathing Board. <b>Insulation:</b> 80mm glass mineral wool density 10.5 kg/m <sup>3</sup> in stud cavity. <b>External face:</b> Brick veneer tied to stud framing across 50mm cavity.	40	3.8

Maximum height m	Nominal thickness mm	Fire resistance minutes	Sound insulation R <sub>w</sub> dB	Duty BS 5234	Axial load per stud kN
4.5	100	30	38	Heavy	5
4.2	95	30	35	Medium	5
6.0	122	60	45	Severe	5
6.0	130	30	40	Heavy	10
7.2	150	90	48	Severe	10
12.0	240	120	52	Severe	15
4.2	142	60	60	Severe	5

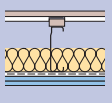
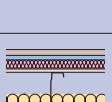
Maximum height m	Nominal thickness mm	Fire resistance minutes	Sound insulation R <sub>w</sub> dB	Duty BS 5234	Axial load per stud kN
3.6	250	60	65	Severe	10
3.0	180	60	55	Severe	10
4.0	300	60	63	Severe	10
4.0	300	90	66	Severe	10

Nominal thickness mm	Fire resistance minutes	Sound insulation R <sub>w</sub> dB	Duty BS 5234	Axial load per stud kN	Wind load kN/m <sup>2</sup>	U - value W/m <sup>2</sup> K
128	30	50	M	10	0.9	0.42
140	60	45	H	NONE	0.75	0.38
250	60	49	S	15	1.5	0.30
295	90	58	S	20	2.0	0.29

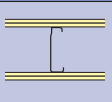
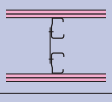
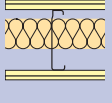
**Table 4 Mezzanine floors**

Lafarge/ASF system reference	Description	Weight kg/m <sup>2</sup>
 <b>RM/F1</b>	<b>Joists:</b> CS15015 at 400mm centres. <b>Decking:</b> 38mm chipboard T & G flooring. <b>Ceiling:</b> one layer 15mm Lafarge Firecheck wallboard.	37
 <b>RM/F2</b>	<b>Joists:</b> CS20520 at 600mm centres. <b>Decking:</b> 22mm cement particle board T & G flooring. <b>Ceiling:</b> two layers - inner layer 12.5mm Lafarge Standard wallboard, outer layer 12.5mm Lafarge Firecheck wallboard.	46
 <b>RM/F3</b>	<b>Joists:</b> CS20520 at 600mm centres. <b>Decking:</b> 22mm cement particle board T & G flooring. <b>Ceiling:</b> two layers 12.5mm Lafarge Firecheck wallboard.	48
 <b>RM/F4</b>	<b>Joists:</b> CS15015 at 400mm centres. <b>Decking:</b> 18mm Caberfloor P5 T & G flooring. <b>Ceiling:</b> two layers 15mm Lafarge Firecheck wallboard on Resilient Bars at 400mm centres. <b>Insulation:</b> 100mm rock mineral wool roll batt density 23kg/m <sup>3</sup> in joist cavity.	48

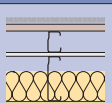
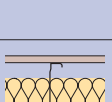
**Table 5 Domestic separating floors**

Lafarge/ASF system reference	Description	Weight kg/m <sup>2</sup>
 <b>RS/F1</b>	<b>Joists:</b> CS15015 at 400mm centres. <b>Decking:</b> Lafarge Acoustic Floor system on 50 x 25mm timber battens - 18mm Caberfloor P5 T & G flooring on Lafarge Resilient Tape. <b>Ceiling:</b> two layers 15mm Lafarge Sound Resistant wallboard on Resilient Bars at 400mm centres. <b>Insulation:</b> 100mm rock mineral wool roll batt density 23kg/m <sup>3</sup> .	60
 <b>RS/F2</b>	<b>Joists:</b> CS15015 at 400mm centres. <b>Decking:</b> 18mm Caberfloor P5 on 15mm Sound Resistant wallboard on 30mm 120kg/m <sup>3</sup> Rockwool slab on 11mm OSB 3 Sterling Board T & G flooring. <b>Ceiling:</b> two layers 15mm Lafarge Sound Resistant wallboard on Resilient Bars at 400mm centres. <b>Insulation:</b> 100mm rock mineral wool roll batt density 23kg/m <sup>3</sup> .	65

**Table 6 Non-load bearing division walls in industrial buildings**

Lafarge/ASF system reference	Description
 <b>RD/W1</b>	<b>Studs:</b> CS15012 at 600mm centres. <b>Boarding:</b> two layers each side - 12.5mm Lafarge Standard wallboard.
 <b>RD/W2</b>	<b>Studs:</b> CS7012 at 600mm centres in twin frame configuration, 50mm spacing between frames. <b>Boarding:</b> two layers each side - 12.5mm Lafarge Firecheck wallboard. VB10012 flat strapping fixed horizontally at 2400mm centres to provide support to short edges of board and as bracing to studs across cavity.
 <b>RD/W3</b>	<b>Studs:</b> CS20520 at 600mm centres. <b>Boarding:</b> two layers each side - inner layer 19mm Lafarge plank fitted horizontally, outer layer 12.5mm Lafarge Standard wallboard fitted vertically. <b>Insulation:</b> 100mm glass mineral wool density 10.5kg/m <sup>3</sup> .

**Table 7 Separating floors for AyrFrame modules for hotels**

Lafarge/ASF system reference	Description
 <b>V/H/F1</b>	<b>Ceiling joists:</b> CS15015 at 400mm centres. <b>Floor joists:</b> CS7012 at 400mm centres. <b>Decking:</b> 22mm cement particle board with a carpet and acoustic mat underlay. Module intermediate layer 11mm OSB 3 Sterling Board. <b>Ceiling:</b> two layers - inner layer 12.5mm Lafarge Standard wallboard, outer layer 12.5mm Lafarge Firecheck wallboard. <b>Insulation:</b> 100mm rock mineral wool density 23 kg/m <sup>3</sup> in ceiling joist cavity.
 <b>V/H/F2</b>	<b>Floor joists:</b> CS15020 at 400mm centres. <b>Decking:</b> 18mm OSB 3 Sterling Board T & G flooring. <b>Ceiling:</b> one layer 15mm Lafarge Firecheck wallboard. <b>Insulation:</b> 100mm glass mineral wool density 10.5kg/m <sup>3</sup> .

	Nominal thickness mm	Fire resistance minutes	Airborne sound R <sub>w</sub> dB	Impact sound insulation L <sub>n</sub> wdB	Max span m	Load kN/m <sup>2</sup>
	203	60	46	70	3.5	3.0
	252	60	48	69	3.5	5.0
	252	90	50	68	3.5	5.0
	210	120	54	62	3.4	1.5

	Nominal thickness mm	Fire resistance minutes	Airborne sound R <sub>w</sub> dB	Impact sound insulation L <sub>n</sub> wdB	Max span m	Load kN/m <sup>2</sup>
	235	60	60	56	3.4	
	266	60	65	53	3.4	

	Weight kg/m <sup>2</sup>	Maximum height m	Nominal thickness mm	Fire resistance minutes	Airborne sound R <sub>w</sub> dB	Duty BS 5234
	45	12.0	200	60	48	S
	52	15.0	250	120	53	S
	70	18.0	265	90	55	S

	Weight kg/m <sup>2</sup>		Nominal thickness mm	Fire resistance minutes	Airborne sound R <sub>w</sub> dB	Impact sound insulation L <sub>n</sub> wdb
	48		282	60	57	50
	38		270	60	53	54

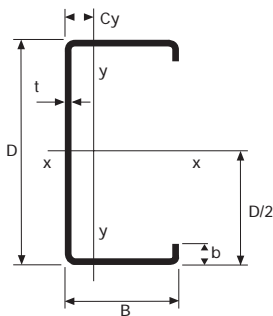
## Section properties - Ayrshire steel stud and track sections

Section Reference	Mass (kg/m)	t (mm)	D (mm)	B (mm)	b (mm)	Area (mm <sup>2</sup> )	Cy (cm)	Ixx (cm <sup>4</sup> )	Zxx (cm <sup>3</sup> )	rxx (cm)	Iyy (cm <sup>4</sup> )	Zyy (cm <sup>3</sup> )	ryy (cm)
CS7012	1.58	1.2	68	44	12	195.64	1.65	15.13	4.45	2.78	5.29	1.92	1.65
CS7015	1.96	1.5	68	44	12	244.57	1.64	18.72	5.50	2.77	6.50	2.36	1.63
CS7020	2.63	2.0	68	44	12	324.16	1.64	24.36	7.17	2.79	8.35	3.03	1.61
CR7012	1.20	1.2	73	32	-	152.61	0.75	12.16	3.33	2.82	1.53	0.62	1.00
UR7020	3.21	2.0	76	70	-	408.53	2.28	40.54	10.67	3.15	21.59	4.57	2.30
CS10012	1.98	1.2	100	44	16	241.64	1.51	37.93	7.59	3.96	6.85	2.37	1.68
CS10015	2.47	1.5	100	44	16	302.57	1.51	47.11	9.42	3.95	8.42	2.91	1.67
CS10020	3.26	2.0	100	44	16	402.16	1.51	61.79	12.36	3.92	10.87	3.76	1.64
CR10012	1.48	1.2	104	32	-	188.83	0.60	28.65	5.51	3.90	1.69	0.65	0.95
UR10020	3.67	2.0	106	70	-	467.03	1.99	86.58	16.34	4.31	24.24	4.84	2.28
CS15012	2.36	1.2	150	44	12	289.94	1.13	95.01	12.67	5.72	6.90	2.11	1.54
CS15015	2.94	1.5	150	44	12	363.47	1.13	118.34	15.78	5.71	8.48	2.59	1.53
CS15020	3.91	2.0	150	44	12	484.06	1.13	155.91	20.79	5.68	10.92	3.34	1.50
CR15012	1.94	1.2	155	32	-	247.14	0.46	75.74	9.77	5.54	1.86	0.68	0.87
UR15020	4.45	2.0	157	70	-	566.48	1.64	214.48	27.32	6.15	27.49	5.13	2.20
CS20012	2.82	1.2	201	44	12	348.82	0.95	192.31	19.12	7.43	7.46	2.16	1.46
CS20015	3.52	1.5	201	44	12	437.71	0.95	239.98	23.86	7.40	9.17	2.66	1.45
CS20020	4.70	2.0	201	44	12	583.90	0.96	317.15	31.53	7.37	11.81	3.43	1.42
CR20012	2.40	1.2	206	32	-	305.56	0.37	154.54	15.00	7.11	1.96	0.69	0.80
UR20020	5.23	2.0	208	70	-	665.93	1.40	416.04	40.00	7.90	29.76	5.31	2.11
CS25012	3.29	1.2	252	44	12	407.24	0.82	334.02	26.51	9.06	7.36	2.20	1.39
CS25015	4.11	1.5	252	44	12	511.37	0.82	417.34	33.12	9.03	9.66	2.70	1.37
CS25020	5.49	2.0	252	44	12	682.96	0.83	552.75	43.87	9.00	12.43	3.48	1.35
CR25012	2.85	1.2	255	32	-	362.48	0.32	269.30	21.12	8.62	2.02	0.70	0.75
UR25020	5.96	2.0	256	70	-	759.53	1.23	684.61	53.49	9.49	31.36	5.44	2.03
CS29015	4.55	1.5	290	44	12	566.47	0.75	592.63	40.87	10.23	9.94	2.72	1.32
CS29020	6.10	2.0	290	44	12	757.06	0.76	785.89	54.20	10.19	12.79	3.51	1.30
CR29012	3.20	1.2	295	32	-	407.91	0.28	392.39	26.60	9.81	13.06	3.51	1.79
UR29020	6.71	2.0	296	75	-	855.27	1.25	1012.21	68.39	10.88	39.36	6.30	2.15
CS34020	6.88	2.0	341	44	12	856.51	0.68	1185.67	69.54	11.77	13.18	3.55	1.24
CR34012	3.66	1.2	346	32	-	466.33	0.25	597.97	34.56	11.32	2.10	0.71	0.67
UR34020	7.48	2.0	346	75	-	952.77	1.12	1483.91	85.78	12.48	40.73	6.38	2.07

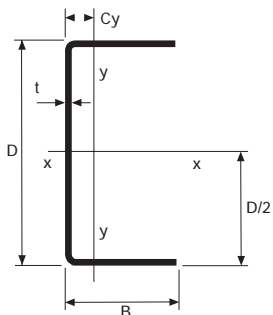


Ayrshire and Lafarge Production Lines





**'C' stud**



**Channel track**

### GENERAL NOTES

- Section properties are for single profiles
- 'C' stud profiles referenced CS
- Channel track profiles referenced CR or UR eg., ref CS10015:  
CS = 'C' Stud  
100 = 100mm deep  
15 = 1.5mm thick
- All dimensions are in mm
- Service slots 38mm dia x 100mm long as standard in web of all 'C' studs 100mm deep and over.

- Service slots 25mm dia x 50mm long in 70mm deep 'C' studs available on request
- Service slots pitched at 610mm c/c along centre of web
- CS studs cut to any length (consider transport and handling restraints)
- CR & UR track sections supplied in 3.0 metre lengths as standard
- VB3809 lateral and VB10012 vertical bracing sections supplied in 4.0 metre lengths as standard.

### ACCESSORIES (MORE DETAILS ON REQUEST)

Web Stiffeners	WS15020 WS20020 WS29020 WS34020
Vertical Bracing	VB10012
Lateral Bracing	VB3809
End Clips	EC7520 EC15020 EC20020 EC25020

### STEEL SPECIFICATION

The full range of profiles is made from grade 'S390' galvanised steel.

BS EN 10147 is the standard code of practice for the specification of hot dipped zinc coated steel strip for cold formed sections.

Whilst this code does not explicitly carry a standard specification for 'S390' material, an appropriate technical description can be calculated that complies with the principles given in Table 1 of this code.

These structural parameters are defined as follows:

Yield strength

$R_{eH} = 390\text{N/mm}^2$  guaranteed minimum value

Tensile strength

$R_m = 468\text{N/mm}^2$  minimum value (ie, 1.2 x Yield strength in accordance with the design code BS 5950:Part 5:1998)

Elongation

$A_{80} = 14\%$

All other technical delivery conditions for the coating, surface finish, quality and treatment as defined in BS EN 10147 are satisfied. Hence the material reference is 'S390GD+Z275'-N-A-C zinc coated steel, with a minimum guaranteed yield strength of 390N/mm<sup>2</sup>.

### QUALITY ASSURANCE

BS EN ISO 9002:1994

BSI Registered Firm

Certificate Number FM 33431

### SAFE LOAD TABLES

A comprehensive set of tables is available on request. The calculation of structural properties is in accordance with BS 5950:Part 5:1998 using the yield and tensile strengths as defined above.

### Ayrshire Steel Framing

To receive details of other Ayrshire building systems including Swagebeam lightweight structural beams contact the Ayrshire sales office at Irvine Tel: 01294 274171 or Fax: 01294 275447

Alternatively make your request through our website [www.ayrshire.co.uk](http://www.ayrshire.co.uk) or e-mail [ayrframing@aol.com](mailto:ayrframing@aol.com)

Remember to ask for a copy of our AyrSuite 2000 disk which includes the Swagebeam SwageDesign and AyrSwage programs for design and detailing your order requirements. The disk also includes short Demos, Quick Tours and On-Line Help.

### Lafarge Plasterboard

To discuss your detailed drylining requirements contact the Lafarge Drywall Enquiryline at Bristol Tel: 01275 377789 Fax: 01275 377456

Alternatively, use our e-mail address: [enquiryline@lafarge-gypsum.lafarge.com](mailto:enquiryline@lafarge-gypsum.lafarge.com)

To receive documentation next day, of other Lafarge drywall systems, contact the Lafarge Literature Line Tel: 01252 313898

Ask for a copy of our CD ROM, Lafarge Select 2, which includes the Lafarge System Selector and Specification Generator, for customising a Lafarge system to your specific requirements.



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