C06

Floors and ceilings

Floors and ceilings

This section details floors and ceilings systems which cover a multitude of performance requirements in all sectors

Floors and ceilings

Gyproc offers a full range of specifications from simple plasterboard ceilings through to a range of gypsum-based, acoustic suspended ceilings and lay-in grid systems. They cover all building categories, including private and social housing, apartments, healthcare, educational facilities, recreational and industrial properties in both new-build and refurbishment and can satisfy the most demanding performance requirements.

When specifying floor and ceiling solutions, a number of performance characteristics are normally used to determine the required solution. Depending on the project or construction type, these performance parameters could be set by minimum regulatory standards, or a client or customer requirement, for buildings that offer the highest standards of performance and comfort.

Our quick-reference floors and ceilings system guide, below, allows you to simply select the performance categories of interest and identify the Gyproc floor and ceiling systems which best satisfy your project requirements.

Fire performance mins	Installed cavity depth mm	Acoustic performance				System	Page
		R_wdB	$R_w + C_{tr}$dB	$L_{n,w}$dB	α_w		
30 - 120	≥100	56 - 66	50 - 55	68 - 50	0.35 - 0.85	CasoLine MF	C06. S02. P355
30 - 90	25 - 175	52 - 63	50	66 - 55	0.35 - 0.85	GypLyner	C06. S06. P401
30 - 90	-	54 - 63	47 - 51	63 - 55	-	GypFloor SILENT[1]	C06. S07. P415
30 - 120	-	36 - 66	50 - 55	78 - 48	-	Timber floors	C06. S08. P427
30 - 60	-	-	-	-	-	Cavity fire barriers	C06. S09. P447

[1] Where the floor can only be accessed from above, the fire and accoustic performances can be upgraded with the GypFloor SILENT system.
[2] Indicative first test performance only.

Acoustic performance

Good practice specification guidance

Gyproc's systems are designed and tested to meet every performance requirement.

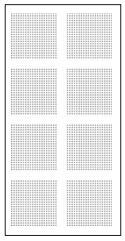
This means that when our systems are installed following our guidance they will achieve every performance claim we make, and if they don't then we'll put it right. To maximise the performance achieved on site, consider the following good practice specification guidance:

- Consider flanking transmission at the design stage and ensure construction detailing is specified to eliminate, or at least to minimise, any downgrading of the acoustic performance. The sound insulation values quoted in system performance tables are laboratory values and the practicalities of construction will mean that acoustic performances measured in the laboratory will be difficult to achieve on site
- Small openings such as gaps, cracks or holes will conduct airborne sounds and can significantly reduce the sound insulation of a construction. For optimum sound insulation a construction must be airtight
- When designing spaces requiring separation by sound insulating floors and ceilings abutting structural steelwork, consideration should be given to the potential loss of sound insulation performance through the steelwork
- We therefore recommend that design performance levels for Airborne sound are approximately 10dB higher and Impact sound performances are 5-10dB lower than the desired site test result

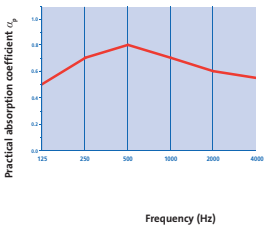
Gyptone performance

Table 1 – Sound absorption data for Gyptone boards

QUATTRO 41



Sound absorption coefficient α_p



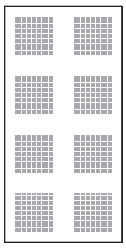
System reference C10A091

Gyptone QUATTRO 41 (plenum depth 187mm)

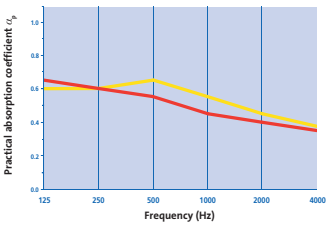
Practical absorption coefficient α_p

125	250	500	1k	2k	4k	α_w	AC[1]	NRC[2]
0.50	0.70	0.80	0.70	0.60	0.55	**0.65**	**C**	**0.70**

QUATTRO 46



Sound absorption coefficient α_p



System reference C10A014
C10A015

Gyptone QUATTRO 46 (plenum depth 400mm)
Gyptone QUATTRO 46 (plenum depth 400mm plus 100mm Isover Spacesaver Ready-Cut)

Practical absorption coefficient α_p

125	250	500	1k	2k	4k	α_w	AC[1]	NRC[2]
0.65	0.60	0.55	0.45	0.40	0.35	**0.45(L)**	**D**	**0.50**
0.60	0.60	0.65	0.55	0.45	0.40	**0.50(L)**	**D**	**0.55**

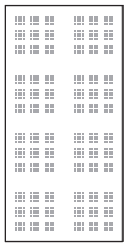
[1] AC - Absorption Class.
[2] NRC - Noise Reduction Coefficient.
[3] Due to installation limitations the minimum cavity size that can be constructed with **CasoLine MF** system is 100mm. The sound absorption performance for these systems is estimated to be equivalent to that of the same system built with a 50mm plenum.

NB All products have been tested to *BS EN 20354* and *ISO 354*. The single figure rating practical sound absorption coefficient α_w is calculated in accordance with *EN ISO 11654*. Suffix letters indicate where performance is limited at either low, medium or high frequencies.

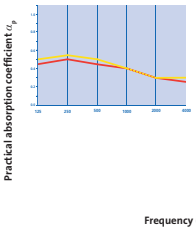
Gyptone performance (continued)

Table 1 (continued) – Sound absorption data for Gyptone boards

QUATTRO 47



Sound absorption coefficient α_p



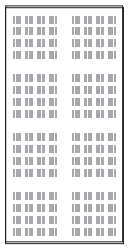
System reference
- C10A016
- C10A017

- **Gyptone QUATTRO 47** (plenum depth 400mm)
- **Gyptone QUATTRO 47** (plenum depth 400mm plus 50mm Isover Roll)

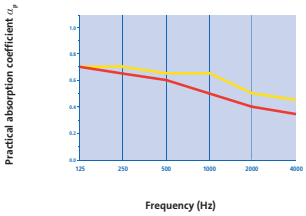
Practical absorption coefficient α_p

125	250	500	1k	2k	4k	α_w	AC[1]	NRC[2]
0.45	0.50	0.45	0.40	0.30	0.25	**0.35(L)**	**D**	**0.40**
0.50	0.55	0.50	0.40	0.30	0.30	**0.40(L)**	**D**	**0.45**

LINE 6



Sound absorption coefficient α_p



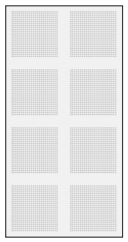
System reference
- C10A001
- C10A002

- **Gyptone LINE 6** (plenum depth 400mm)
- **Gyptone LINE 6** (plenum depth 400mm plus 100mm Isover Spacesaver Ready-Cut)

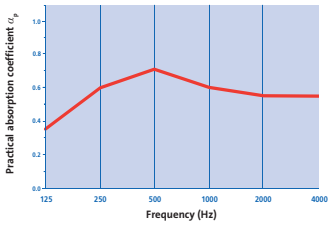
Practical absorption coefficient α_p

125	250	500	1k	2k	4k	α_w	AC[1]	NRC[2]
0.70	0.65	0.60	0.50	0.40	0.35	**0.45(L)**	**D**	**0.55**
0.70	0.70	0.65	0.65	0.50	0.45	**0.55(L)**	**D**	**0.65**

SIXTO 63



Sound absorption coefficient α_p



System reference
- C10A115

- **Gyptone SIXTO 63** (plenum depth 200mm)

Practical absorption coefficient α_p

125	250	500	1k	2k	4k	α_w	AC[1]	NRC[2]
0.35	0.60	0.70	0.60	0.55	0.55	**0.60**	**C**	**0.60**

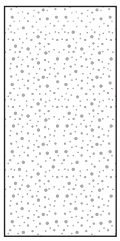
[1] AC - Absorption Class.
[2] NRC - Noise Reduction Coefficient.

NB All products have been tested to *BS EN 20354* and *ISO 354*. The single figure rating practical sound absorption coefficient α_w is calculated in accordance with *EN ISO 11654*. Suffix letters indicate where performance is limited at either low, medium or high frequencies.

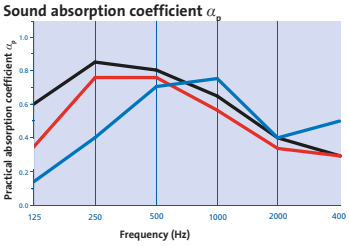
Rigitone performance

Table 2 – Sound absorption data for Rigitone boards

8-15-20 SUPER



Sound absorption coefficient α_p



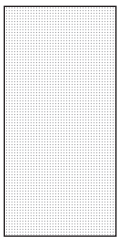
System reference
C10A058
C10A059
C10A069

Rigitone 8-15-20 SUPER (plenum depth 50mm)[3]
Rigitone 8-15-20 SUPER (plenum depth 200mm)
Rigitone 8-15-20 SUPER (plenum depth 200mm plus 50mm Isover Frame Batt 32)

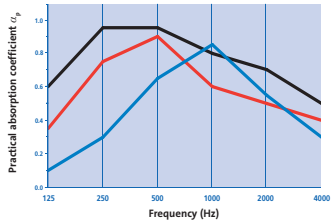
Practical absorption coefficient α_p

125	250	500	1k	2k	4k	α_w	AC[1]	NRC[2]
0.15	0.40	0.70	0.75	0.45	0.40	**0.50(M)**	**D**	**0.55**
0.35	0.75	0.75	0.55	0.40	0.30	**0.45(LM)**	**D**	**0.60**
0.60	0.85	0.80	0.65	0.45	0.30	**0.45(LM)**	**D**	**0.70**

8/18



Sound absorption coefficient α_p



System reference
C10A036
C10A037
C10A060

Rigitone 8/18 (plenum depth 50mm)[3]
Rigitone 8/18 (plenum depth 200mm)
Rigitone 8/18 (plenum depth 200mm plus 50mm Isover Frame Batt 32)

Practical absorption coefficient α_p

125	250	500	1k	2k	4k	α_w	AC[1]	NRC[2]
0.10	0.30	0.65	0.85	0.55	0.30	**0.50(M)**	**D**	**0.55**
0.35	0.75	0.90	0.60	0.50	0.40	**0.55(LM)**	**D**	**0.70**
0.60	0.95	0.95	0.80	0.70	0.50	**0.70(LM)**	**C**	**0.85**

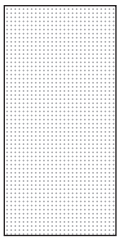
[1] AC - Absorption Class.
[2] NRC - Noise Reduction Coefficient.
[3] Due to installation limitations the minimum cavity size that can be constructed with **CasoLine MF** system is 100mm. The sound absorption performance for these systems is estimated to be equivalent to that of the same system built with a 50mm plenum.

NB All products have been tested to *BS EN 20354* and *ISO 354*. The single figure rating practical sound absorption coefficient α_w is calculated in accordance with *EN ISO 11654*. Suffix letters indicate where performance is limited at either low, medium or high frequencies.

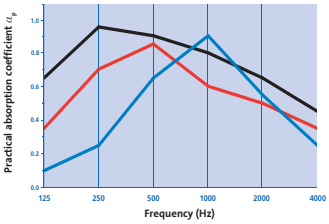
Rigitone performance (continued)

Table 2 (continued) - Sound absorption data for Rigitone boards

10/23



Sound absorption coefficient α_p



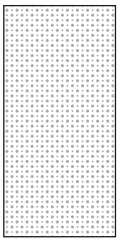
System reference
- C10A038
- C10A039
- C10A061

- **Rigitone 10/23** (plenum depth 50mm)[3]
- **Rigitone 10/23** (plenum depth 200mm)
- **Rigitone 10/23** (plenum depth 200mm plus 50mm Isover Frame Batt 32)

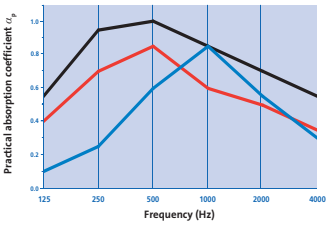
Practical absorption coefficient α_p

125	250	500	1k	2k	4k	α_w	AC[1]	NRC[2]
0.10	0.25	0.65	0.90	0.55	0.25	**0.45(M)**	**D**	**0.60**
0.35	0.70	0.85	0.60	0.50	0.35	**0.50(LM)**	**D**	**0.65**
0.65	0.95	0.90	0.80	0.65	0.45	**0.65(LM)**	**C**	**0.80**

12-20/66



Sound absorption coefficient α_p



System reference
- C10A042
- C10A043
- C10A063

- **Rigitone 12-20/66** (plenum depth 50mm)[3]
- **Rigitone 12-20/66** (plenum depth 200mm)
- **Rigitone 12-20/66** (plenum depth 200mm plus 50mm Isover Frame Batt 32)

Practical absorption coefficient α_p

125	250	500	1k	2k	4k	α_w	AC[1]	NRC[2]
0.10	0.25	0.60	0.85	0.55	0.30	**0.45(M)**	**D**	**0.55**
0.40	0.70	0.85	0.60	0.50	0.35	**0.50(LM)**	**D**	**0.65**
0.55	0.95	1.00	0.85	0.70	0.55	**0.70(LM)**	**C**	**0.90**

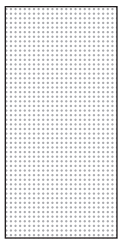
[1] AC – Absorption Class.
[2] NRC – Noise Reduction Coefficient.
[3] Due to installation limitations the minimum cavity size that can be constructed with **CasoLine MF** system is 100mm. The sound absorption performance for these systems is estimated to be equivalent to that of the same system built with a 50mm plenum.

NB All products have been tested to *BS EN 20354* and *ISO 354*. The single figure rating practical sound absorption coefficient α_w is calculated in accordance with *EN ISO 11654*. Suffix letters indicate where performance is limited at either low, medium or high frequencies.

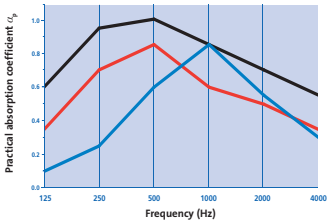
Rigitone performance (continued)

Table 2 (continued) – Sound absorption data for Rigitone boards

15/30



Sound absorption coefficient α_p



System reference

- C10A040
- C10A041
- C10A062

- **Rigitone 15/30** (plenum depth 50mm)[3]
- **Rigitone 15/30** (plenum depth 200mm)
- **Rigitone 15/30** (plenum depth 200mm plus 50mm Isover Frame Batt 32)

Practical absorption coefficient α_p

	125	250	500	1k	2k	4k	α_w	AC[1]	NRC[2]
	0.10	0.25	0.60	0.85	0.55	0.30	**0.45(M)**	**D**	**0.55**
	0.35	0.70	0.85	0.60	0.50	0.35	**0.50(LM)**	**D**	**0.65**
	0.60	0.95	1.00	0.85	0.70	0.55	**0.70(LM)**	**C**	**0.85**

[1] AC – Absorption Class.
[2] NRC – Noise Reduction Coefficient.
[3] Due to installation limitations the minimum cavity size that can be constructed with **CasoLine MF** system is 100mm. The sound absorption performance for these systems is estimated to be equivalent to that of the same system built with a 50mm plenum.

NB All products have been tested to *BS EN 20354* and *ISO 354*. The single figure rating practical sound absorption coefficient α_w is calculated in accordance with *EN ISO 11654*. Suffix letters indicate where performance is limited at either low, medium or high frequencies.