BASWA acoustic®

System data sheet

BASWA Phon Classic Base

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1 Application

For the reduction of the reverberation time in ceilings and wall surfaces.

Properties:

- Excellent broadband sound absorption
- Minimal installation height
- Smooth, seamless surface
- Extensive color selection chart to BASWA colors BC or (individual to NCS / RAL)
- Non-flammable (A2-s1, d0) according to DIN EN 13501-1
- CE certified / ETA-No : 16 / 0144 (CSTB)

Suitable for processing:

- Horizontal, inclined or vertical surfaces
- seamless, straight surfaces up to areas of 500m² (on concrete) and 100m²
  (on plasterboard, suspended systems, observe specifications of the gypsum industry)
- Simple vaulted surfaces
- Double vaults, arches and domes
- Surfaces with sidelight situations
- Curved and side-light exposed surfaces are to be executed in two coat systems («Classic System»: Base, Fine or Top)

Requirements for the sur face (ceiling / wall):

For the adhesion of BASWA Phon systems, the surface must fulfill the following requirements:

1. Must be a mineral, massive or suspended system
2. Must conform to the required final form
3. Must be stable
4. Adhesive strength > 250 N / m² (25 kg / m²)
5. Must be airtight
6. Prevention of dew point must be guaranteed
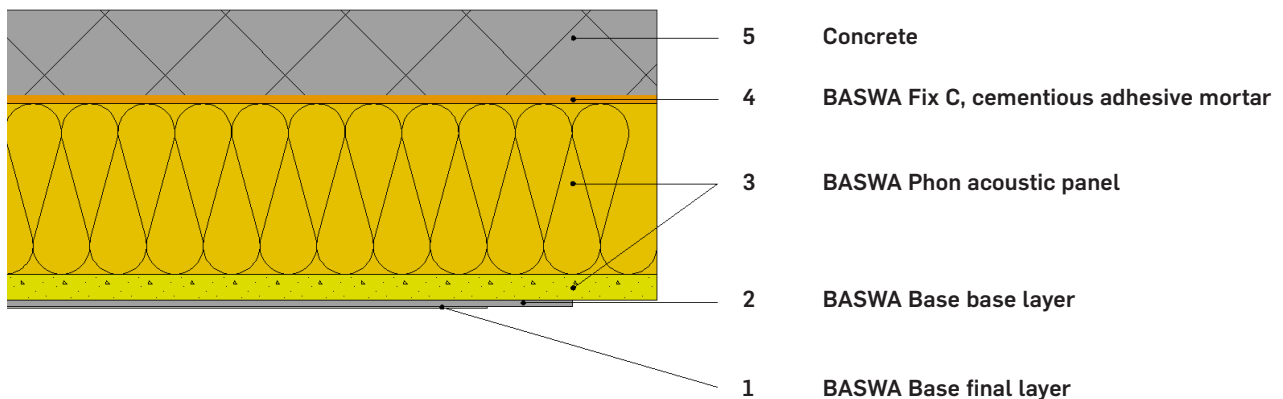
Processing conditions:

BASWA Phon acoustic systems can only be installed by companies that have been trained by BASWA acoustic AG and are in possession of a BASWA Phon certificate. BASWA acoustic AG only supplies to certified companies.The latest BASWA planning documents as the processing guidelines also apply.
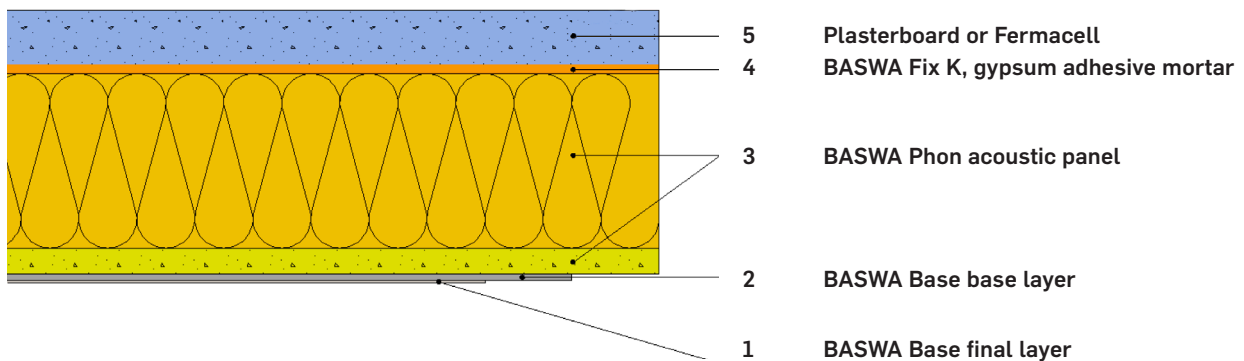
2 System profile

- Double coat system
- Grain size of the final coating BASWA Base = 0.7mm
- Grain size of the base coating BASWA Base = 0.7mm
- Roughest surface structure
- Standard color ~ NCS S 0500-N
- Finish quality Standard <Q2>/maximum <Q3>

3 System construction

Massive ceilings

5	Concrete
4	BASWA Fix C, cementious adhesive mortar
3	BASWA Phon acoustic panel
2	BASWA Base base layer
1	BASWA Base final layer

Suspended ceilings

5	Plasterboard or Fermacell
4	BASWA Fix K, gypsum adhesive mortar
3	BASWA Phon acoustic panel
2	BASWA Base base layer
1	BASWA Base final layer

4   System thicknesses

Substrate massive or suspended

2.0 – 2.5mm	
26, 36, 46, 66mm	System thicknesses: 30mm, 40mm, 50mm, 70mm
1.5 – 2.5mm	
1.0 – 1.5mm	
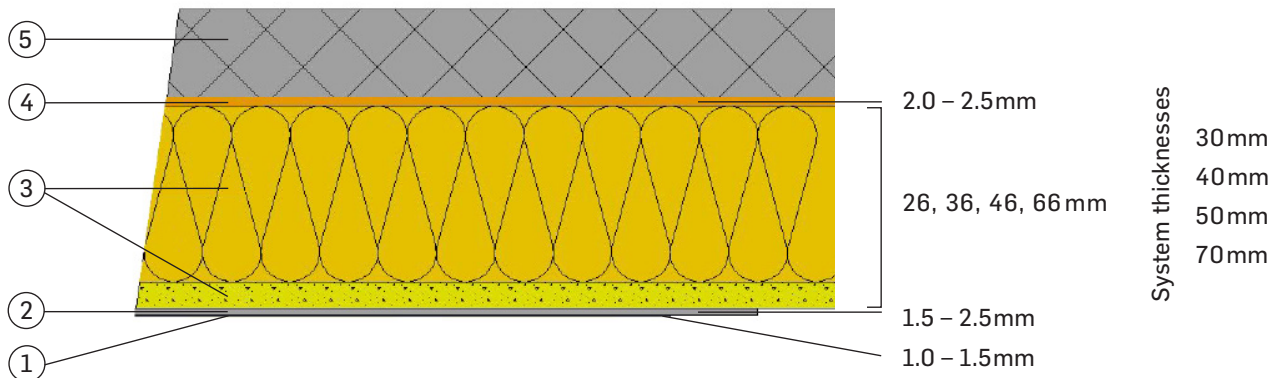
1. BASWA Base final layer   2. BASWA Base layer   3. BASWA Phon acoustic panel   4. Adhesive   5. Substrate

5   System weights

From the lower edge of the base:

Systemstärke 30mm	ca. 84 N/m²	(8.6 kg/m²)
Systemstärke 40mm	ca. 93 N/m²	(9.51 kg/m²)
Systemstärke 50mm	ca. 95 N/m²	(9.73 kg/m²)
Systemstärke 70mm	ca. 100 N/m²	(10.17 kg/m²)

Note:
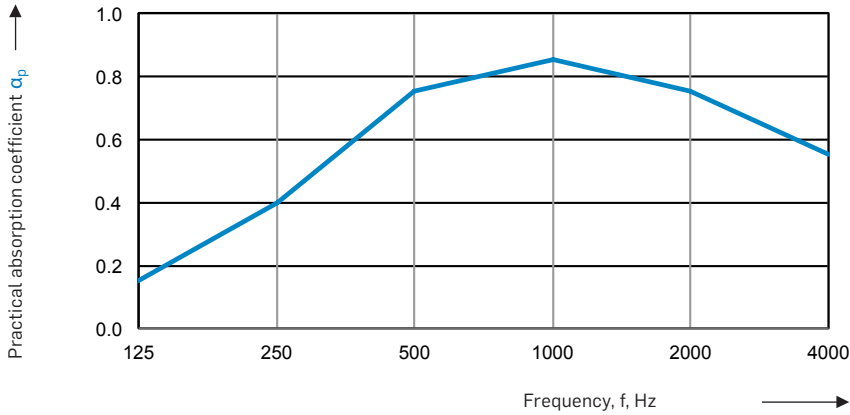The weight data can vary depending on the craftsman's processing by $\pm$ 15 N/m² ($\pm$ 1.5 kg/m²).

6   Thermal properties

BASWA Phon Classic Base	1/U	U-value (W/m² K)	λ Lambda-value (W/m K)	R (m² K/W)
30mm	0.68	**1.47**	**0.044**	**0.68**
40mm	0.97	**1.03**	**0.041**	**0.97**
50mm	1.25	**0.80**	**0.040**	**1.25**
70mm	1.82	**0.55**	**0.038**	**1.82**

7 Acoustic system measurement values

BASWA Phon Classic Base 30mm on massive ceilings

α_p	frequency f, [Hz]	α_s
	100	0.12
0.15	125	0.12
	160	0.24
	200	0.29
0.40	250	0.39
	315	0.5
	400	0.56
0.75	500	0.68
	630	1.01
	800	0.8
0.85	1000	0.92
	1250	0.81
	1600	0.85
0.75	2000	0.79
	2500	0.6
	3150	0.59
0.55	4000	0.51
	5000	0.56

according to **ISO 11654:**
Weighted sound absorption coefficient
α_w = **0.65** Sound absorption class **C**

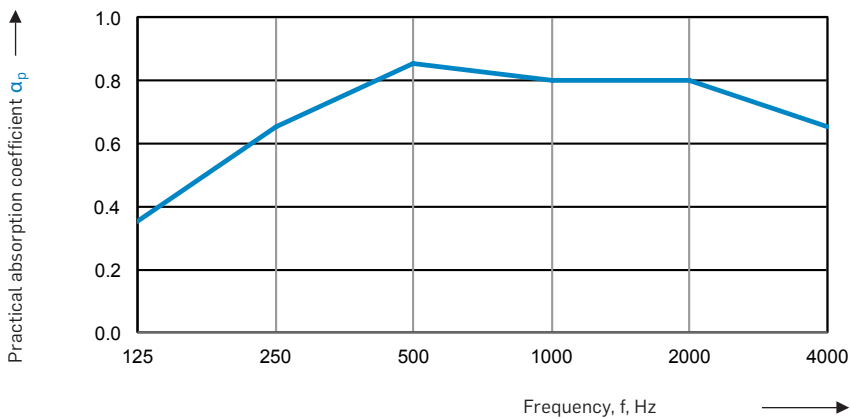evaluated according to **ASTM C423-09a**
Noise Reduction Coefficient **NRC = 0.70**
Sound Absorption Average **SAA = 0.70**

Sound absorption coefficient α_s according to ISO-Norm DIN EN ISO 20354

BASWA Phon Classic Base 40mm on massive ceilings

α_p	frequency f, [Hz]	α_s
	100	0.36
0.35	125	0.27
	160	0.36
	200	0.42
0.65	250	0.76
	315	0.82
	400	0.86
0.85	500	0.89
	630	0.87
	800	0.78
0.80	1000	0.82
	1250	0.82
	1600	0.84
0.80	2000	0.79
	2500	0.71
	3150	0.65
0.65	4000	0.59
	5000	0.71

according to **ISO 11654:**
Weighted sound absorption coefficient
α_w = **0.80** Sound absorption class **B**
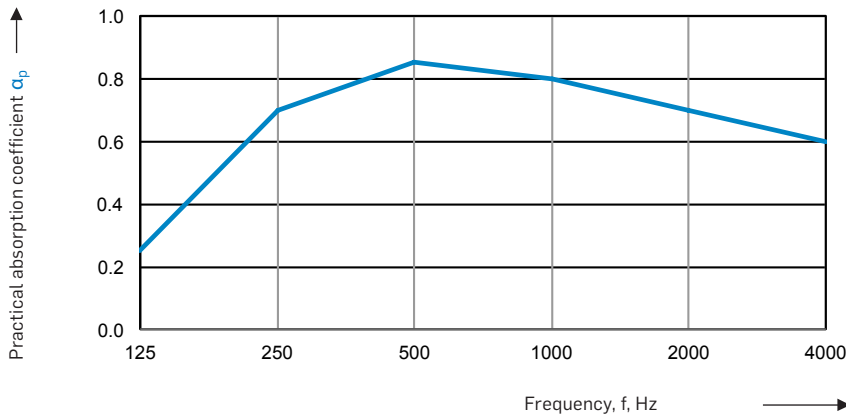
evaluated according to **ASTM C423-09a**
Noise Reduction Coefficient **NRC = 0.80**
Sound Absorption Average **SAA = 0.80**

Sound absorption coefficient α_s according to ISO-Norm DIN EN ISO 20354

BASWA Phon Classic Base   50mm   on massive ceilings

α_p	frequency f, [Hz]	α_s
	100	0.27
0.25	125	0.23
	160	0.2
	200	0.73
0.70	250	0.66
	315	0.75
	400	0.83
0.85	500	0.85
	630	0.88
	800	0.84
0.80	1000	0.78
	1250	0.71
	1600	0.79
0.70	2000	0.72
	2500	0.63
	3150	0.66
0.60	4000	0.53
	5000	0.62

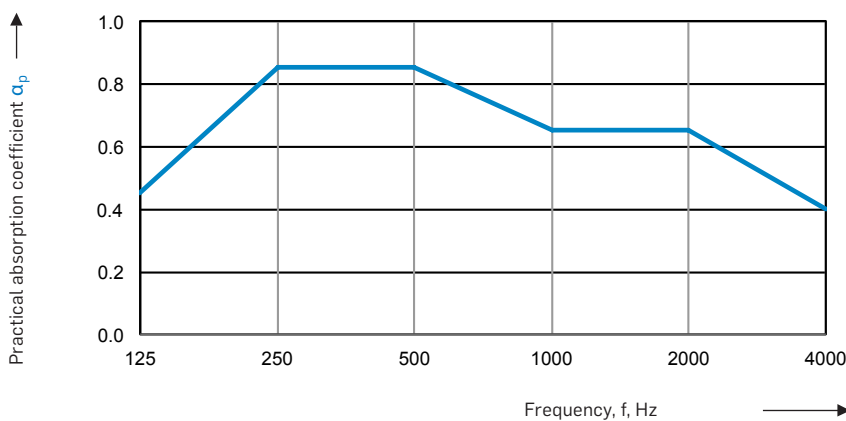Sound absorption coefficient α_s according to ISO-Norm DIN EN ISO 20354

according to **ISO 11654:**
Weighted sound absorption coefficient
α_w = **0.75 (L)** Sound absorption class **C**

evaluated according to **ASTM C423-09a**
Noise Reduction Coefficient **NRC = 0.75**
Sound Absorption Average **SAA = 0.75**

BASWA Phon Classic Base   70mm   on massive ceilings

α_p	frequency f, [Hz]	α_s
	100	0.43
0.45	125	0.40
	160	0.48
	200	0.82
0.85	250	0.86
	315	0.84
	400	0.85
0.85	500	0.87
	630	0.88
	800	0.64
0.65	1000	0.64
	1250	0.68
	1600	0.72
0.65	2000	0.66
	2500	0.58
	3150	0.51
0.40	4000	0.56
	5000	0.15

Sound absorption coefficient α_s according to ISO-Norm DIN EN ISO 20354
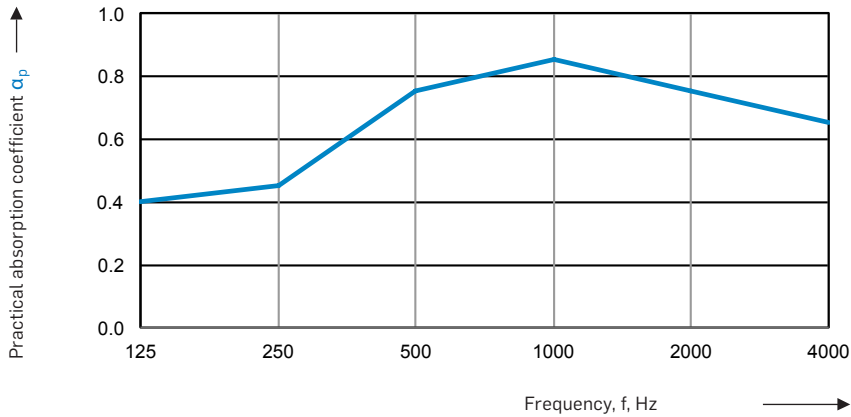
according to **ISO 11654:**
Weighted sound absorption coefficient
α_w = **0.60 (LM)** Sound absorption class **C**

evaluated according to **ASTM C423-09a**
Noise Reduction Coefficient **NRC = 0.75**
Sound Absorption Average **SAA = 0.75**

BASWA Phon Classic Base   30mm   suspension, 200mm

according to **ISO 11654:**
Weighted sound absorption coefficient
α_w = **0.75** Sound absorption class **C**

evaluated according to **ASTM C423-09a**
Noise Reduction Coefficient **NRC = 0.70**
Sound Absorption Average **SAA = 0.70**

α_p	frequency f, [Hz]	α_s
0.40	100	0.31
	125	0.45
	160	0.45
0.45	200	0.43
	250	0.43
	315	0.46
0.75	400	0.62
	500	0.71
	630	0.88
0.85	800	0.85
	1000	0.88
	1250	0.88
0.75	1600	0.79
	2000	0.72
	2500	0.7
0.65	3150	0.62
	4000	0.67
	5000	0.71

Sound absorption coefficient α_s according to ISO-Norm DIN EN ISO 20354

BASWA Phon Classic Base   40mm   suspension, 200mm
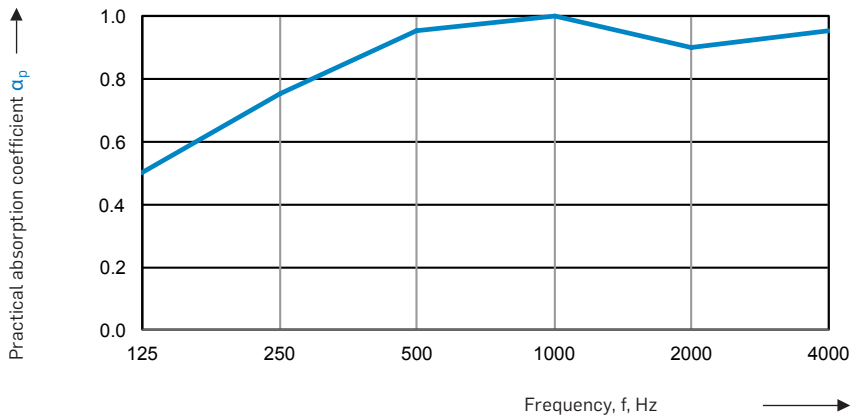

according to **ISO 11654:**
Weighted sound absorption coefficient
α_w = **0.95** Sound absorption class **A**

evaluated according to **ASTM C423-09a**
Noise Reduction Coefficient **NRC = 0.85**
Sound Absorption Average **SAA = 0.90**

α_p	frequency f, [Hz]	α_s
0.50	100	0.35
	125	0.43
	160	0.68
0.75	200	0.7
	250	0.61
	315	0.93
0.95	400	0.92
	500	0.92
	630	1.00
1.00	800	1.09
	1000	0.97
	1250	0.9
0.90	1600	0.81
	2000	0.91
	2500	0.95
0.95	3150	1.14
	4000	0.91
	5000	0.78

Sound absorption coefficient α_s according to ISO-Norm DIN EN ISO 20354

BASWA Phon Classic Base   50mm   suspension, 200mm

Practical absorption coefficient α_p vs Frequency, f, Hz

α_p	frequency f, [Hz]	α_s
	100	0.32
0.40	125	0.32
	160	0.51
	200	0.53
0.55	250	0.40
	315	0.68
	400	0.84
0.90	500	0.93
	630	0.94
	800	0.92
0.85	1000	0.73
	1250	0.83
	1600	1.09
0.80	2000	0.73
	2500	0.65
	3150	0.76
0.70	4000	0.63
	5000	0.69

Sound absorption coefficient α_s according to ISO-Norm DIN EN ISO 20354
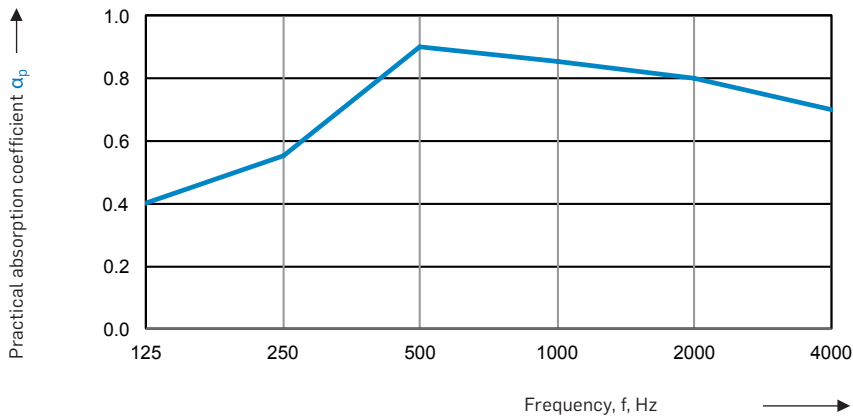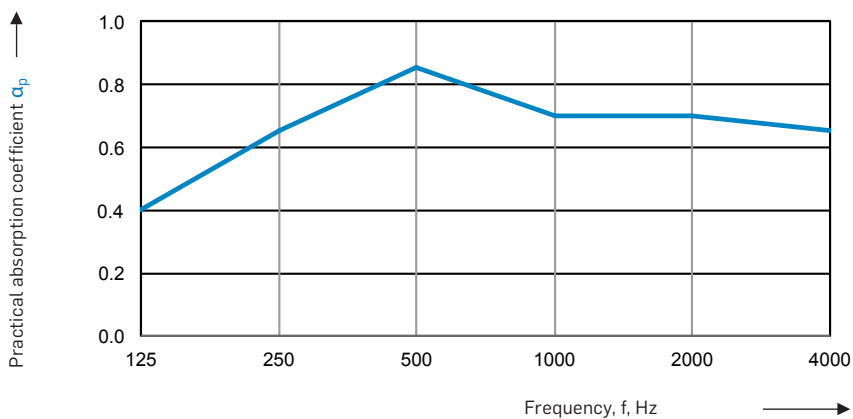
according to **ISO 11654:**
Weighted sound absorption coefficient
α_w = **0.80** Sound absorption class **B**

evaluated according to **ASTM C423 - 09a**
Noise Reduction Coefficient **NRC = 0.70**
Sound Absorption Average **SAA = 0.75**

BASWA Phon Classic Base   70mm   suspension, 200mm

Practical absorption coefficient α_p vs Frequency, f, Hz

α_p	frequency f, [Hz]	α_s
	100	0.31
0.40	125	0.39
	160	0.55
	200	0.58
0.65	250	0.60
	315	0.77
	400	0.80
0.85	500	0.91
	630	0.90
	800	0.67
0.70	1000	0.63
	1250	0.74
	1600	0.78
0.70	2000	0.68
	2500	0.60
	3150	0.62
0.65	4000	0.56
	5000	0.71

Sound absorption coefficient α_s according to ISO-Norm DIN EN ISO 20354

according to **ISO 11654:**
Weighted sound absorption coefficient
α_w = **0.75** Sound absorption class **C**

evaluated according to **ASTM C423-09a**
Noise Reduction Coefficient **NRC = 0.70**
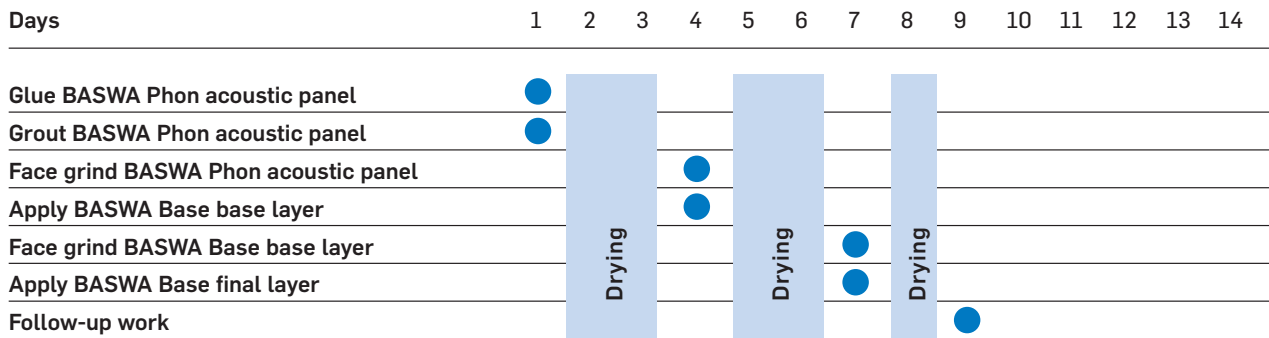Sound Absorption Average **SAA = 0.70**

8   Installation time

The installation time given assumes a work group of three to four persons and a ceiling size of 80–100m^2. The drying times of BASWA Phon jointing and coating materials relate to the atmospheric conditions of the room: 20°C room temperature / 50% relative humidity. Allow each processing step to dry thoroughly, material humidity < 10%.

BASWA Phon Classic Base

Days	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Glue BASWA Phon acoustic panel	●													
Grout BASWA Phon acoustic panel	●													
Face grind BASWA Phon acoustic panel				●										
Apply BASWA Base base layer				●										
Face grind BASWA Base base layer		Drying			Drying		●	Drying						
Apply BASWA Base final layer							●							
Follow-up work									●					

9   Surface protection / Cleaning / Repairs

See BASWA planning documents
www.baswa.com

10 Legal notice / Disclaimer

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