

Education sector

Application guide








Application Area	Assembly Hall	Lecture theatre (Large Classroom)
<p>Area description:</p>	<p>Main Purpose To provide a focal point for large gatherings.</p> <p>Typical Size Floor area: 80 - 200 m² Ceiling height: 3.0 - 6.0 m.</p>	<p>Main Purpose To hold meetings and conferences for up to 150 persons.</p> <p>Typical Size Floor area: up to 500 m² Ceiling height: 3.0 - 6.0 m.</p>
<p>Recommended solution (Datasheet no., product)</p> <p>Can be used with the following floor type: 1) Carpet 2) Parquet 3) Stone / linoleum</p>	<p>Without loudspeakers: 5.1.01 Sonar & Sonar Alto ¹⁾ ²⁾ ³⁾ (Big modules) 5.2.01 Koral & Koral Alto ¹⁾ ²⁾ ³⁾ (Big modules)</p> <p>With loudspeakers: 5.1.01 Sonar ¹⁾ ²⁾ ³⁾ (Option: Big modules) 5.1.04 Plano ¹⁾ ²⁾ 5.1.05 Dekor ¹⁾ ²⁾ 5.2.01 Koral ¹⁾ ²⁾ ³⁾ (Option: Big modules) 5.2.06 Scholar ¹⁾ ²⁾ ³⁾ (Good impact resistance) (Option: Big modules)</p>	<p>Without loudspeakers: 5.1.01 Sonar & Sonar Alto ¹⁾ ²⁾ ³⁾ (Big modules) 5.2.01 Koral & Koral Alto ¹⁾ ²⁾ ³⁾ (Big modules)</p> <p>With loudspeakers: 5.1.01 Sonar ¹⁾ ²⁾ ³⁾ (Option: Big modules) 5.1.04 Plano ¹⁾ ²⁾ 5.1.05 Dekor ¹⁾ ²⁾ 5.2.01 Koral ¹⁾ ²⁾ ³⁾ (Option: Big modules) 5.2.06 Scholar ¹⁾ ²⁾ ³⁾ (Good impact resistance) (Option: Big modules)</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Guideline: Ceiling and room requirements/ recommendations</p> <div data-bbox="205 696 288 779"> </div> <p>Acoustics</p> <p>The recommended reverberation times for each application relate to the largest typical room sizes. As reverberation time is volume dependent, for smaller rooms, the reverberation time should normally be lower than the maximum value recommended. For additional advice, please contact Rockfon.</p>		

Class room	Library	Music Room *
<p>Main Purpose To provide a pleasant learning environment for 15 - 25 persons.</p> <p>Typical Size Floor area: 50 - 75 m² Ceiling height: 2.4 - 3.0 m.</p>	<p>Main Purpose To provide a pleasant environment for study for up to 100 persons.</p> <p>Typical Size Floor area: 90 - 300 m² Ceiling height: 2.4 - 3.0 m.</p>	<p>Main Purpose To create a suitable environment for music teaching and recital.</p> <p>Typical Size Floor area: 50 - 90 m² Ceiling height: 2.7 - 3.5 m.</p>
<p>5.1.01 Sonar ^{1) 2) 3)} (Option: Big modules) 5.1.04 Plano ^{1) 2) 3)} 5.1.05 Dekor ^{1) 2) 3)} 5.2.01 Koral ^{1) 2) 3)} (Option: Big modules) 5.2.02 Polar ^{1) 2) 3)} 5.2.06 Scholar ^{1) 2) 3)} (Good impact resistance) (Option: Big modules) 5.3.03 Samson ^{1) 2) 3)} (High impact resistance)</p>	<p>5.1.01 Sonar ^{1) 2) 3)} (Option: Big modules) 5.1.04 Plano ^{1) 2) 3)} 5.1.05 Dekor ^{1) 2) 3)} 5.2.01 Koral ^{1) 2) 3)} (Option: Big modules) 5.2.02 Polar ^{1) 2) 3)} 5.2.06 Scholar ^{1) 2) 3)} (Good impact resistance) (Option: Big modules)</p>	<p>5.1.01 Sonar, Sonar Alto / Sonar Tenor ^{1) 2) 3)} 5.1.04 Plano ^{1) 2) 3)} 5.1.05 Dekor ^{1) 2) 3)} 5.2.01 Koral ^{1) 2) 3)} 5.2.06 Scholar ^{1) 2) 3)} (Good impact resistance) (Options: Big modules)</p>
<p>Reverberation time - Primary school: < 0.6 sec between 500 - 2000 Hz. (AD.E Part E4. & Dept Education and Skills - Building Bulletin 93) Rockfon recommendation: Reverberation time - Primary school: 0.4 - 0.6 sec between 250 - 4000 Hz. Sound absorption: $\alpha_p \geq 0.6$ between 250 - 4000 Hz. Speech intelligibility: Good.</p> <p>Reverberation time - Secondary school: < 0.8 sec between 500 - 2000 Hz. (AD.E Part E4. & Dept Education and Skills - Building Bulletin 93) Rockfon recommendation: Reverberation time - Secondary school: 0.4 - 0.7 sec between 250 - 4000 Hz. Sound absorption: $\alpha_p \geq 0.6$ between 250 - 4000 Hz. Speech intelligibility: Good.</p> <p>Reverberation time - Spec. education / hearing impaired: < 0.4 sec between 500 - 2000 Hz. (AD.E Part E4. & Dept Education and Skills - Building Bulletin 93) Rockfon recommendation: Reverberation time - Spec. education / hearing impaired: 0.2 - 0.4 sec between 250 - 4000 Hz. Sound absorption: $\alpha_p \geq 0.7$ between 250 - 4000 Hz. Speech intelligibility: Good.</p>	<p>Reverberation time: < 1.0 sec between 500 - 2000 Hz. (AD.E Part E4. & Dept Education and Skills - Building Bulletin 93) Rockfon recommendation: Reverberation time: < 0.7 sec between 250 - 4000 Hz. Sound absorption: $\alpha_p \geq 0.6$ between 250-4000 Hz.</p>	<p>Reverberation time - Music classroom: < 1.0 sec between 500 - 2000 Hz. (AD.E Part E4. & Dept Education and Skills - Building Bulletin 93) Rockfon recommendation: Reverberation time - Music classroom: 0.6 - 0.9 sec between 250 - 4000 Hz. Sound absorption: $\alpha_p \geq 0.6$ between 250 - 4000 Hz. Speech intelligibility: Good.</p> <p>Reverberation time - Performance / recital: 1.0 - 1.5 sec between 500 - 2000 Hz. (AD.E Part E4. & Dept Education and Skills - Building Bulletin 93) Rockfon recommendation: Reverberation time - Performance/recital: 1.0-1.4 sec between 250-4000 Hz. Sound absorption: $\alpha_p \geq 0.6$ between 250 - 4000 Hz. Speech intelligibility: Good.</p> <p>Reverberation time - Control room for recording: < 0.5 sec between 500 - 2000 Hz. (AD.E Part E4. & Dept Education and Skills - Building Bulletin 93) Rockfon recommendation: Reverberation time - Control room for recording: < 0.5 sec between 250 - 4000 Hz. Sound absorption: $\alpha_p \geq 0.7$ between 250 - 4000 Hz. Speech intelligibility: Good.</p>
<p><i>Class O material. (Building Regulations)</i> Made from materials capable of providing 30 min. fire resistance. (BS 476) Low smoke and toxic emission.</p>	<p><i>Class O material. (Building Regulations)</i> Made from materials capable of providing 30 min. fire resistance. (BS 476) Low smoke and toxic emission.</p>	<p><i>Class O material. (Building Regulations)</i> Made from materials capable of providing 30 min. fire resistance. (BS 476) Low smoke and toxic emission.</p>
<p>> 90% Relative Humidity at 40°C. Non hygroscopic.</p>	<p>> 90% Relative Humidity at 40°C. Non hygroscopic.</p>	<p>> 90% Relative Humidity at 40°C. Non hygroscopic.</p>
<p>Easily cleaned surface. Must not allow growth of fungi and bacteria. Must fulfil class "10 days" for gas emission and "Low" for particle emission. (The Indoor Climate Label) Fully sealed tile edges and back surface.</p>	<p>Easily cleaned surface. Must not allow growth of fungi and bacteria. Must fulfil class "10 days" for gas emission and "Low" for particle emission. (The Indoor Climate Label) Fully sealed tile edges and back surface.</p>	<p>Easily cleaned surface. Must not allow growth of fungi and bacteria. Must fulfil class "10 days" for gas emission and "Low" for particle emission. (The Indoor Climate Label) Fully sealed tile edges and back surface.</p>
<p>Vacuum clean: Once per year.</p>	<p>Vacuum clean: Once per year.</p>	<p>Vacuum clean: Once per year.</p>
<p><i>Diffuse light reflection:</i> $\geq 80\%$. <i>300 lux at desk. Up to 500 lux on black/whiteboard (CIBSE Code for interior lighting).</i> Low glare lighting. As much natural light as possible.</p>	<p><i>Diffuse light reflection:</i> $\geq 80\%$. <i>Overall Lux level 300 Lux (CIBSE Code for interior lighting).</i> Low glare lighting. As much natural light as possible.</p>	<p>Minimum diffuse light reflection 80%. Overall Lux level 300 Lux (CIBSE Code for interior lighting). Low glare lighting.</p>
<p>Normally no access to service installations required.</p>	<p>Normally no access to service installations required.</p>	<p>Normally no access to service installations required.</p> <p>* Due to the specialist nature of these room types, and for information on other music room types, please contact Rockfon for additional advice</p>

Gymnasium	Meeting room (interview / counselling room)	Swimming pool
<p>Main Purpose To provide a robust environment for physical activity.</p> <p>Typical Size Floor area: 250 - 550 m² Ceiling height: 5.0 - 7.0 m.</p>	<p>Main Purpose To provide privacy and adequate communication conditions for two to twenty five persons.</p> <p>Typical Size Floor area: 15 - 50 m² Ceiling height 2.4 - 3.0 m.</p>	<p>Main Purpose To create a safe and hygienic environment incorporating long lasting interior finishings.</p> <p>Typical Size Floor area: 100 - 2500 m² (2 x area of water in swimming pool) Ceiling height. Min 4.0 m.</p>
<p>5.2.06 Scholar ²⁾ ³⁾ (Good impact resistance) 5.3.03 Samson ²⁾ ³⁾ (High impact resistance) 5.3.04 Cosmos ²⁾ ³⁾</p>	<p>5.1.01 Sonar ¹⁾ ²⁾ ³⁾ (Option: Big modules) 5.1.04 Plano ¹⁾ ²⁾ 5.1.05 Dekor ¹⁾ ²⁾ 5.2.01 Koral ¹⁾ ²⁾ ³⁾ (Option: Big modules) 5.2.02 Polar ¹⁾ ²⁾ ³⁾ 5.2.06 Scholar ¹⁾ ²⁾ ³⁾ (Option: Big modules) 5.3.10 Silence Koral 44 ¹⁾ ²⁾ ³⁾</p>	<p>5.1.01 Sonar ³⁾ (Option: Big modules) 5.1.07 Polar Colour ³⁾ 5.2.01 Koral ³⁾ (Option: Big modules) 5.2.06 Scholar ³⁾ (Option: Big modules) 5.3.02 Hygienic Baffle ³⁾</p> <p>A warm room construction is recommended. Use enhanced corrosion resistant (ECR) Rockfon RockLink grid for these areas, due to the constant high humidity level.</p>
<p>Reverberation time: > 1.5 sec between 500 - 2000 Hz. (AD.E Part E4. & Dept Education and Skills - Building Bulletin 93)</p> <p>Rockfon recommendation: Reverberation time: < 1.1 sec between 250 -4000 Hz. Sound absorption: $\alpha_p \geq 0.7$ between 250 - 4000 Hz. Speech intelligibility: Good.</p>	<p>Reverberation time: < 0.8 sec between 500 - 2000 Hz. (AD.E Part E4. & Dept Education and Skills - Building Bulletin 93)</p> <p>Rockfon recommendation: Reverberation time: < 0.6 sec between 250 - 4000 Hz. Sound absorption: $\alpha_p \geq 0.6$ between 250 - 4000 Hz. Speech intelligibility: Good.</p>	<p>Reverberation time: < 2 sec between 500 - 2000 Hz. (AD.E Part E4. & Dept Education and Skills - Building Bulletin 93)</p> <p>Rockfon recommendation: Reverberation time: <1.4 sec between 250 -4000 Hz. Sound absorption: $\alpha_p \geq 0.7$ between 250 - 4000 Hz. Speech intelligibility: Good.</p>
<p><i>Class O material. (Building Regulations)</i> Made from materials capable of providing 30 min. fire resistance. (BS 476) Low smoke and toxic emission.</p>	<p><i>Class O material. (Building Regulations)</i> Made from materials capable of providing 30 min. fire resistance. (BS 476) Low smoke and toxic emission.</p>	<p><i>Class O material. (Building Regulations)</i> Made from materials capable of providing 30 min. fire resistance. (BS 476) Low smoke and toxic emission.</p>
<p>> 95% Relative Humidity at 40°C. Non hygroscopic.</p>	<p>> 90% Relative Humidity at 40°C. Non hygroscopic.</p>	<p>> 95% Relative Humidity at 40°C. Non hygroscopic.</p>
<p>Easily cleaned surface. Must not allow growth of fungi and bacteria. Must fulfil class "10 days" for gas emission and "Low" for particle emission. (The Indoor Climate Label) Fully sealed tile edges and back surface.</p>	<p>Easily cleaned surface. Must not allow growth of fungi and bacteria. Must fulfil class "10 days" for gas emission and "Low" for particle emission. (The Indoor Climate Label) Fully sealed tile edges and back surface.</p>	<p>Easily cleaned surface. Must not allow growth of fungi and bacteria. Must fulfil class "10 days" for gas emission and "Low" for particle emission. (The Indoor Climate Label) Fully sealed tile edges and back surface. Good ventilation or air-conditioning.</p>
<p>Vacuum clean: Once per year.</p>	<p>Vacuum clean: Once per year.</p>	<p>Wet wipe / vacuum clean: Once per year.</p>
<p><i>Diffuse light reflection:</i> $\geq 80\%$. <i>Overall Lux level 200-300 Lux. (CIBSE Code for interior lighting).</i> Low glare, impact resistant lighting.</p>	<p><i>Diffuse light reflection:</i> $\geq 80\%$. <i>Overall Lux level 300 Lux. Up to 500 Lux on whiteboard (CIBSE Code for interior lighting).</i> Low glare lighting.</p>	<p><i>Diffuse light reflection:</i> $\geq 80\%$. <i>Overall Lux level 200 Lux. (CIBSE Code for interior lighting).</i> Low glare lighting.</p>
<p>Normally no access to service installations required.</p>	<p>Occasional access to service installations required.</p>	<p>Occasional access to service installations required. Enhanced corrosion resistant grid required. Warm roof construction recommended.</p>

Cellular Office	Cafeteria/Restaurant	Kitchen
<p>Main Purpose To provide a calm and easy-concentration environment for up to 2 persons to do work requiring privacy and concentration.</p> <p>Typical Size Floor area: 10 - 25 m² Ceiling height: 2.4 - 3.0 m.</p>	<p>Main Purpose To provide a relaxed and interesting atmosphere for up to 150 persons.</p> <p>Typical Size Floor area: 50 - 300 m² Ceiling height 2.4 - 3.3 m.</p>	<p>Main Purpose To provide an optimal hygienic and acoustic environment.</p> <p>Typical Size Floor area: 20 - 350 m² Ceiling height 2.4 -3.5 m.</p>
<p>5.1.01 Sonar ^{1) 2) 3)} 5.1.04 Plano ^{1) 2) 3)} 5.1.05 Dekor ^{1) 2) 3)} 5.2.01 Koral ^{1) 2) 3)} 5.2.02 Polar ^{1) 2) 3)} 5.2.06 Scholar ^{1) 2) 3)} (Option: Big modules) 5.3.10 Silence Koral 44 ^{1) 2) 3)}</p>	<p>5.1.01 Sonar ^{1) 2) 3)} (Option: Big modules) 5.1.04 Plano ^{1) 2) 3)} 5.1.05 Dekor ^{1) 2) 3)} 5.2.01 Koral ^{1) 2) 3)} (Option: Big modules) 5.2.06 Scholar ^{1) 2) 3)} (Good impact resistance) (Option: Big modules)</p>	<p>5.3.01 Hygienic ^{2) 3)}</p> <p>(Solution incorporating silicone sealant and enhanced corrosion resistant (ECR) Rockfon RockLink grid is advised if frequent cleaning is required)</p>
<p>Reverberation time: < 1.0 sec between 500 - 2000 Hz. (AD.E Part E4. & Dept Education and Skills - Building Bulletin 93)</p> <p>Rockfon recommendation: Reverberation time: < 0.6 sec between 250 - 4000 Hz. Equivalent sound absorption area: 0.8 x Floor area. Sound absorption: $\alpha_p \geq 0.6$ between 250 - 4000 Hz.</p>	<p>Reverberation time: < 1.0 sec between 500 - 2000 Hz. (AD.E Part E4. & Dept Education and Skills - Building Bulletin 93)</p> <p>Rockfon recommendation: Reverberation time: < 0.7 sec between 250 - 4000 Hz. Sound absorption: $\alpha_p \geq 0.6$ between 250 - 4000 Hz.</p>	<p>Reverberation time: < 1.5 sec between 500 - 2000 Hz. (AD.E Part E4. & Dept Education and Skills - Building Bulletin 93)</p> <p>Rockfon recommendation: Reverberation time: < 0.7 sec between 250 - 4000 Hz. Sound absorption: $\alpha_p \geq 0.7$ between 250 - 4000 Hz.</p>
<p><i>Class 0 material. (Building Regulations)</i> Made from materials capable of providing 30 min. fire resistance. (BS 476) Low smoke and toxic emission.</p>	<p><i>Class 0 material. (Building Regulations)</i> Made from materials capable of providing 30 min. fire resistance. (BS 476) Low smoke and toxic emission.</p>	<p><i>Class 0 material. (Building Regulations)</i> Made from materials capable of providing 30 min. fire resistance. (BS 476) Low smoke and toxic emission.</p>
<p>> 90% Relative Humidity at 40°C. Non hygroscopic.</p>	<p>> 90% Relative Humidity at 40°C. Non hygroscopic.</p>	<p>> 95% Relative Humidity at 40°C. Non hygroscopic.</p>
<p>Easily cleaned, surface. Must not allow growth of fungi and bacteria. Must fulfil class "10 days" for gas emission and "Low" for particle emission. (The Indoor Climate Label) Fully sealed tile edges and back surface.</p>	<p>Easily cleaned surface. Must not allow growth of fungi and bacteria. Must fulfil class "10 days" for gas emission and "Low" for particle emission. (The Indoor Climate Label) Fully sealed tile edges and back surface.</p>	<p>Easily cleaned, smooth unbroken surface. Must not allow growth of fungi and bacteria. Must fulfil class "10 days" for gas emission and "Low" for particle emission. (The Indoor Climate Label) Fully sealed tile edges and back surface.</p>
<p>Vacuum clean: Once per year.</p>	<p>Wet wipe: Twice per year.</p>	<p>Wet wipe: Four times per year.</p>
<p><i>Light coloured, matt surface.</i> <i>Diffuse light reflection: $\geq 80\%$. Lux level at desk top 500 Lux.</i> <i>Low glare lighting.</i> <i>(CIBSE Code for interior lighting and Lighting Guide LG3)</i></p>	<p><i>Diffuse light reflection: $\geq 80\%$.</i> <i>Overall Lux level 200 Lux. (CIBSE Code for interior lighting).</i></p>	<p><i>Diffuse light reflection: $\geq 80\%$.</i> <i>Overall Lux level 300 Lux. (CIBSE Code for interior lighting).</i> Low glare, easily cleanable lighting with IP55 rating.</p>
<p>Occasional access to service installations required.</p>	<p>Occasional access to service installations required.</p>	<p>Occasional access to service installations required. Easily cleaned after handling during maintenance.</p>

Corridor	Toilet / wet room	Childrens Day/Nursery Play/Quiet Room
<p>Main Purpose To provide a fire safe, acoustically comfortable and user friendly circulation area.</p> <p>Typical Size Floor area: 10 - 250 m² Ceiling height 2.4 - 3.0 m.</p>	<p>Main Purpose To provide maximum privacy and to conceal services.</p> <p>Typical Size Floor area: 1 - 25 m² Ceiling height 2.4 - 3.5 m.</p>	<p>Main Purpose To provide a calm and stimulating environment for 15 - 25 children.</p> <p>Typical Size Floor area: 30 - 65 m² Ceiling height: 2.4 - 3.0 m.</p>
<p>5.1.01 Sonar ^{1) 2) 3)} (Option: Corridor modules) 5.1.04 Plano ^{1) 2) 3)} 5.1.05 Dekor ^{1) 2) 3)} 5.2.01 Koral ^{1) 2) 3)} (Option: Corridor modules) 5.2.06 Scholar ^{1) 2) 3)} (Good impact resistance) (Option: Corridor modules) 5.3.03 Samson ^{1) 2) 3)} (High impact resistance) 5.3.09 Boxer 40mm ^{1) 2) 3)} (Acoustic wall absorber)</p>	<p>5.1.04 Plano ³⁾ 5.1.05 Dekor ³⁾ 5.2.01 Koral ³⁾ 5.2.06 Scholar ³⁾ (Good impact resistance)</p> <p>Use enhanced corrosion resistant (ECR) Rockfon RockLink grid in case of constant high humidity in the room.</p>	<p>5.1.01 Sonar ^{1) 2) 3)} 5.2.01 Koral ^{1) 2) 3)} 5.2.02 Polar ^{1) 2) 3)} 5.2.06 Scholar ^{1) 2) 3)} (Good impact resistance) 5.3.03 Samson ^{1) 2) 3)} (High impact resistance)</p>
<p>Absorption area: Method A; Cover an area equal to or greater than the floor area with a class C absorber or better. It will normally be convenient to cover the ceiling area with the additional absorption. Alternatively, method B; provide a minimum of 0.25 m² total absorption area per cubic metre of the volume. The additional absorptive material should be distributed over one or more of the surfaces. (AD.E Part E3, & Dept Education and Skills - Building Bulletin 93.</p> <p>Rockfon recommendation: Reverberation time: < 0.7 sec between 250 - 4000 Hz. Sound absorption: $\alpha_p \geq 0.6$ between 250 - 4000 Hz. Minimum Class C ceiling sound absorption and / or additional high level acoustic wall absorption, e.g. Rockfon Boxer 40mm.</p>	<p>Reverberation time: < 1.5 sec between 500 - 2000 Hz. (AD.E Part E4. & Dept Education and Skills - Building Bulletin 93)</p> <p>Rockfon recommendation: Reverberation time: < 0.7 sec between 250 - 4000 Hz. Sound absorption: $\alpha_p \geq 0.6$ between 250 - 4000 Hz.</p>	<p>Reverberation time: < 0.6 sec between 500 - 2000 Hz. (AD.E Part E4. & Dept Education and Skills - Building Bulletin 93)</p> <p>Rockfon recommendation: Reverberation time: < 0.5 sec between 250 - 4000 Hz. Sound absorption: $\alpha_p \geq 0.7$ between 250 - 4000 Hz.</p>
<p><i>Class O material. (Building Regulations)</i> Made from materials capable of providing 30 min. fire resistance. (BS 476) Low smoke and toxic emission.</p>	<p><i>Class O material. (Building Regulations)</i> Made from materials capable of providing 30 min. fire resistance. (BS 476) Low smoke and toxic emission.</p>	<p><i>Class O material. (Building Regulations)</i> Made from materials capable of providing 30 min. fire resistance. (BS 476) Low smoke and toxic emission.</p>
<p>> 90% Relative Humidity at 40°C. Non hygroscopic.</p>	<p>> 95% Relative Humidity at 40°C. Non hygroscopic.</p>	<p>> 90% Relative Humidity at 40°C. Non hygroscopic.</p>
<p>Easily cleaned surface. Must not allow growth of fungi and bacteria. Must fulfil class "10 days" for gas emission and "Low" for particle emission. (The Indoor Climate Label) Fully sealed tile edges and back surface.</p>	<p>Easily cleaned surface. Must not allow growth of fungi and bacteria. Must fulfil class "10 days" for gas emission and "Low" for particle emission. (The Indoor Climate Label) Fully sealed tile edges and back surface.</p>	<p>Easily cleaned surface. Must not allow growth of fungi and bacteria. Must fulfil class "10 days" for gas emission and "Low" for particle emission. (The Indoor Climate Label) Fully sealed tile edges and back surface.</p>
<p>Vacuum clean: Once per year.</p>	<p>Vacuum clean: Once per year.</p>	<p>Vacuum clean: Once per year.</p>
<p><i>Diffuse light reflection: $\geq 80\%$. Overall Lux level 100 Lux (CIBSE Code for interior lighting).</i> Low glare lighting.</p>	<p><i>Diffuse light reflection: $\geq 80\%$. Overall Lux level 100 Lux. (CIBSE Code for interior lighting).</i> Low glare lighting, suitable for damp and humid conditions.</p>	<p><i>Diffuse light reflection: $\geq 80\%$. 300 Lux at desk up to 500 Lux on black/whiteboard (CIBSE Code for interior lighting).</i> Low glare lighting. As much natural light as possible.</p>
<p>Regular access to service installations required. Easily cleaned after handling during maintenance.</p>	<p>Occasional access to service installations required.</p>	<p>Normally no access to service installations required</p>

Application Area	Atria
Area description:	Main Purpose To provide a circulation for students. Typical Size Floor area: 10 - 1000 m ² Ceiling height: 6.0 m.
Recommended solution (Datasheet no., product) Can be used with the following floor type: 1) Carpet 2) Parquet 3) Stone / linoleum	5.3.09 Boxer 40 mm Wall absorber 1) 2) 3) (Big modules) 5.3.01 Baffles MonoAcoustic (ceilings & walls),
Guideline: Ceiling and room requirements/ recommendations	 <p>Acoustics</p> <p>The recommended reverberation times for each application relate to the largest typical room sizes. As reverberation time is volume dependent, for smaller rooms, the reverberation time should normally be lower than the maximum value recommended. For additional advice, please contact Rockfon.</p> <p>Reverberation time: 0.8 < 1.5 sec between 500 - 2000Hz. (AD.E. Part E4. & Dept. Education and Skills. Building Bulletin 93).</p>
	 <p>Fire performance</p> <p><i>Class O material. (Building Regulations)</i> Made from materials capable of providing 30 min. fire resistance. (BS 476) Low smoke and toxic emission.</p>
	 <p>Humidity resistance</p> <p>> 90% Relative Humidity at 40°C. Non hygroscopic.</p>
	 <p>Hygiene</p> <p>Easily cleaned surface. Must not allow growth of fungi and bacteria. Must fulfil class "10 days" for gas emission and "Low" for particle emission. (The Indoor Climate Label) Fully sealed tile edges and back surface.</p>
	 <p>Cleaning</p> <p>Vacuum clean: Once per year.</p>
	 <p>Lighting</p> <p><i>Diffuse light reflection: ≥ 80%.</i> <i>Overall Lux 100 - 2 level 300 Lux. (CIBSE Code for interior lighting).</i> Low glare lighting.</p>
	 <p>Demounting</p> <p>Normally no or only occasional access to service installations required.</p>

Application guide *Education Sector*

When designing ceilings for the education sector many different criteria have to be considered. Aesthetically pleasing surroundings, a good acoustic environment, which complies with Approved Document E and DfES. Building Bulletin 93, high fire safety and long term durability are just some of the key factors which affect the indoor environment and personal comfort and learning conditions.

A common factor for all areas within the education sector is that many people are located in the same room. This places high demands for creating the right interior acoustic environment specifically with regards to reverberation time and speech intelligibility. To ensure good speech intelligibility, and particularly in kindergartens and primary schools, to regulate the high sound levels generated by young children, the use of a ceiling that absorbs sound efficiently in the child speech frequency range contributes to a low reverberation time. This provides good learning conditions and helps student

concentration, whilst also contributing to privacy between adjoining open plan areas.

Typical requirements for a classroom would be to achieve a reverberation time of 0.5 - 0.7 seconds between 250 - 4000 Hz and to use a ceiling with a practical sound absorption coefficient $\alpha_p \geq 0.6$ over the same frequency range.

As education establishments tend to accommodate large numbers of people, and sadly suffer from arson attacks, this creates a need for high fire safety throughout the building. Truly fire safe ceiling solutions which remain stable in the event of fire can have a great influence on the effectiveness of escape routes and the ease with which fire fighters can enter buildings on fire. This can have a very beneficial affect on life safety and on reducing the cost of building fire damage and the time educational establishments are non-operational. To contribute to fire safety, it is recommended to construct ceilings from materials that are capable of providing at

least 30 minutes fire resistance in accordance with BS 476.

The typically high occupancy and long daily usage, combined with the continued focus by education authorities on the need for ever increasing building lifespan, places focus on the durability and longevity of building materials. Ceiling materials that are durable and dimensionally stable and can be used in areas which are subjected to variations in temperature and relative humidity are ideally suited to assisting with achieving this goal. This will also ensure that even during holiday periods when schools and colleges are typically heated to a minimum level, and maybe not at all, the appearance and longevity of this important interior building element finish remains unchanged. To ensure this goal is reached, ceilings that are non hygroscopic and remain dimensionally stable in environments up to 100% relative humidity at 40°C are the most appropriate option.



Sound Absorption

Ceilings made from stone wool (resin bonded mineral wool) are porous absorbers, which absorb sound and reduce reverberation time.



Humidity Resistance

Rockfon ceilings are non hygroscopic and can withstand up to 100% relative humidity at 40°C.



Dimensional Stability

Rockfon ceilings are 100% dimensionally stable even when exposed to extremes of moisture, heat and cold.



Fire Performance

Stone wool does not burn and can withstand more than 1000°C for longer than 120 minutes without melting.



Hygiene

Stone wool is an inorganic material and so is not attacked by rot, fungus or bacteria.



Impact Resistance

Samson has passed the ball game mechanical impact test in accordance with DIN 18032 Part 3.



Cleaning

The surfaces are easily cleaned by vacuum cleaning or wet cloth according to instructions.



Light Reflection

Due to the high light reflection values of Rockfon products, light is diffused in an optimum way.

Application guide *Education Sector*

In this application guide you can find a number of the most common application areas within the education sector.

- Assembly hall
- Lecture theatre
- Class room
- Library
- Music room
- Gymnasium/Sports hall
- Meeting room
- Swimming pool
- Cellular office
- Cafeteria/restaurant
- Kitchen
- Corridor
- Toilet/wet room
- Childrens day care/Nursery
- Atrium

The guide makes reference to requirements which are applicable to ceilings to ensure that they contribute to the creation of a pleasant indoor environment. In the guide, actual laws and national recommendations are printed in italics. Other text is Rockfon recommendations.

The guide quotes the following:

Area description

Includes the main purpose of the room and typical room sizes.

Recommended solution

Includes recommended Rockfon solutions that contribute or ensure that the listed requirements are met, as well as listing the relevant data sheet number. For acoustic purposes, the solution also includes a variety of floor types with which the specific ceiling solution is compatible with. Where appropriate, suggestions for module sizes are also quoted. Where more than one solution is recommended per application area, your selection should be based on aesthetic requirements, floor type and the specific application. The recommended solutions represent the most suitable solutions within the Rockfon product assortment. Other solutions may be suitable, please contact Rockfon for additional information if required.



Guideline: Ceiling and room requirements/recommendations

Includes the most important ceiling design and room performance requirements.



Rockfon ceilings and Acoustic solutions can be used to comply with Approved Document E. Parts E3 & E4 and Department for Education & Skills - Building Bulletin 93.

ACTIVATE YOUR CEILING

Rockfon® develop intelligent ceiling solutions which actively address a number of important issues in modern buildings and renovation projects.

Rockfon products are known for their design, aesthetics and ease of installation; coupled with the key performance features of superior fire resistance and acoustics.

This ensures that our ceiling solutions are amongst the highest performing, most cost effective and time efficient in today's interiors market.

The comprehensive ceiling solution portfolio from Rockfon ensures that our customers are able to actively add value to the construction process, by ultimately creating superior interior environments.

That is why we say "ACTIVATE YOUR CEILING".

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Environment

Rockfon products are primarily based on natural materials – stone, chalk and clay. They are produced in an environmentally friendly process and can be recycled.

Rockfon ceiling tiles are manufactured from stone wool (resin bonded mineral wool) which fulfils the EU directive 97/69 note Q.

The Indoor Climate Label

Rockfon products have obtained Class 10 emission time for gas emission and "low particle emission" classification, the best classes according to The Indoor Climate Label standard.



Service

Rockfon has many years of experience in ceiling design and acoustic regulation. We are happy to place our knowledge at your disposal – by documentation and personal service, from the planning stage to the finished building.

ROCKWOOL
Rockfon[®]
ACTIVATE YOUR CEILING