

# Gustafs Core Material Guide

Material Property	High Density Fiber Gypsum		MDF		Plywood	
	Score	Description	Score	Description	Score	Description
Dimension Stability	<input type="radio"/>	Fiber Gypsum is extremely dimension stable and large panels up to 3000x1200 mm can be installed with a 0 mm spacing (100% closed joints).	<input type="radio"/>	MDF is sensitive to changes in the room's temperature or humidity and <b>should</b> be installed with a 4 mm spacing per 1000 mm of length and width.	<input type="radio"/>	Plywood is sensitive to changes in the room's temperature or humidity and <b>should</b> be installed with a 2 mm spacing per 1000 mm of length and width.
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Resistance to impact	<input type="radio"/>	Fiber Gypsum has a good resistance to impact and is suitable for high traffic areas, sports halls, schools, hospitals, restaurants and similar.	<input type="radio"/>	MDF has a good resistance to impact and is suitable for high traffic areas, sports halls, schools, hospitals, restaurants and similar.	<input type="radio"/>	Plywood has a good resistance to impact and is suitable for high traffic areas, sports halls, schools, hospitals, restaurants and similar.
	<input type="radio"/>					
	<input type="radio"/>					
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	<input type="radio"/>					
Flatness	<input type="radio"/>	Fiber Gypsum is not sensitive to changes in the room's temperature or humidity and stays flat over time. Large panel formats can be used.	<input type="radio"/>	MDF is sensitive to changes in the room's temperature or humidity and large panel formats should be avoided.	<input type="radio"/>	Plywood is sensitive to changes in the room's temperature or humidity and large panel formats should be avoided.
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	<input type="radio"/>					
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Fire Safety of the core	<input type="radio"/>	Fiber Gypsum contains 83% or more non-combustible minerals and is classified A1-s1,d0 or A2-s1,d0. No impregnating chemicals or fire retardant lacquers need to be used.	<input type="radio"/>	Fire retardant FR-MDF's with class B-s1,d0 are available.	<input type="radio"/>	Plywood can be impregnated to class B-s1,d0. The impregnation and drying process can lead to warping panels.
	<input type="radio"/>					
	<input type="radio"/>					
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	<input type="radio"/>					
Fire Safety of the whole panel, including the veneer, lacquer and perforations	<input type="radio"/>	Fiber Gypsum is all the way through non-combustible. Perforations do not effect the fire properties and the whole panel keeps fire class A2-s1,d0, <b>including the veneer and lacquer.</b>	<input type="radio"/>	With veneer FR-MDF drops to fire class C or lower. FR-Lacquers can be used, but the salts and thickness requirements make them non-clear. Perforated holes can not be lacquered.	<input type="radio"/>	Plywood including the top veneer can be impregnated to B-s1,d0. Impregnation cannot pass the glue layers in plywood, perforations might expose non-impregnated material.
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Acoustics	<input type="radio"/>	With 15 kg/m <sup>2</sup> , Fiber Gypsum based panels will not vibrate/resonate due to sound waves. Sound will be properly reflected towards to back concert halls or auditoriums.	<input type="radio"/>	With 9,5 kg/m <sup>2</sup> , MDF based panels will more easily start to vibrate/resonate due to sound waves. Sound will <b>not</b> be properly reflected towards to back concert halls or auditoriums.	<input type="radio"/>	With 9,5 kg/m <sup>2</sup> , Plywood based panels will more easily start to vibrate/ resonate due to sound waves. Sound will <b>not</b> be properly reflected towards to back concert halls or auditoriums.
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Recycled material	<input type="radio"/>	Fiber Gypsum contains 94% recycled material and 17% of these are post consumer.	<input type="radio"/>	MDF is made of new raw materials and does not contain any recycled material (and by that no post consumer recycled materials).	<input type="radio"/>	Plywood is made of new raw materials and does not contain any recycled material (and by that no post consumer recycled materials).
	<input type="radio"/>					
	<input type="radio"/>					
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Thermal mass	<input type="radio"/>	With a high density of 1150-1250 kg/m <sup>3</sup> Fiber Gypsum stores both heath and cold. This property helps to keep rooms at an even temperature which reduces energy consumption.	<input type="radio"/>	MDF is not very good at storing heath and cold and rather works the opposite way by isolating the concrete structure of a building which ortherwise can store heat and cold.	<input type="radio"/>	Plywood is not very good at storing heath and cold and rather works the opposite way by isolating the concrete structure of a building which ortherwise can store heat and cold.
	<input type="radio"/>					
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Emissions	<input type="radio"/>	Fiber Gypsum does not contribute to formaldehyde emissions at all and post treatments like acoustic perforations does not influence the level of emissions.	<input type="radio"/>	MDF is available in formaldehyde class E1. After adding an acoustic perforation, the E1 classification is normally not valid anymore as the total emitting surface increases.	<input type="radio"/>	Plywood is available in formaldehyde class E1. After adding an acoustic perforation, the E1 classification is normally not valid anymore as the total emitting surface increases.
	<input type="radio"/>					
	<input type="radio"/>					
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No added Urea Formaldehyde	<input type="radio"/>	Fibre Gypsum does not contain any glue and will never contain added urea formaldehyde.	<input type="radio"/>	MDF is available in non added ureaformaldehyde versions. MDF contains a lot of glue, so when incorrect glues are used, a lot of urea formaldehyde will be added.	<input type="radio"/>	Plywood is available in non added ureaformaldehyde versions.Plywood contains a lot of glue, so when incorrect glues are used, a lot of urea formaldehyde will be added.
	<input type="radio"/>					
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Colors	<input type="radio"/>	Fiber Gypsoms are availabe in Light Grey and Dark Grey. A Dark Grey Core is recommended in combination with dark veneers, dark paints and dark laminates.	<input type="radio"/>	The natural color of MDF is brown, but is available in many pre-colored grades. Please note that pre-colored MDF will have minimum MOQ's and longer lead times.	<input type="radio"/>	Plywood is not available in pre-colored grades.
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Total Score	53	points for High Density Fiber Gypsum	31	points for MDF	28	points for Plywood
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