

FIRE AND SOUND MANUAL

AccuCrete®



Introduction

AccuCrete® Brand Underlayments are manufactured by Arcosa Specialty Materials. We have been mining materials for our construction products for over 40 years. AccuCrete® applicators are in most major markets throughout North America and Canada.

	NexGen®	Prime®	Prepour®	AccuRadiant®	G40®	G50®	H40®
ASTM C472	•	•	•	•	•	•	
ASTM C109							•
PSI Range	2000-3500	2500-4000	up to 2600	3000-4000	3500-5000	4500-6000	up to 7000
Thickness- Minimum to Maximum in a Single Pour	3/8" to 3"	3/8" to 3"	Min 3/4" 3/8" to 2"	Min 3/4" 3/8" to 3"	Featheredge Typical thickness: 3/8" to 1-1/2"	Featheredge Typical thickness: 1/8" to 1"	3/8" to 1-1/2"
ASTM E84 Smoke Developed Fuel Contribution Smoke Density	0	0	0	0	0	0	0
ASTM E119	Meets	Meets	Meets	Meets	Meets	Meets	Meets
Greenguard Gold Certified	•	•	•	•	•	•	•

AccuCrete® and AccuLevel® underlayments are manufactured to rigorous ASTM standards, and have been tested to meet UL 1 and 2 hour fire rated designs. All AccuCrete® and AccuLevel® UL designs incorporate ultra low compressive AccuQuiet Sound Mats.

Section 1207.1 of the 2018 I. B. C. scope applies to common interior walls, partitions and floor/ceiling assemblies between adjacent dwelling units or between dwelling units and public areas.

Section 1201.2 of the 2018 I. B. C. scope applies to airborne sound for walls, partitions and floor/ceiling assemblies must have a sound transmission class (STC) of minimum 50 when tested in accordance with ASTM E90, laboratory test. Minimum 45 if field tested.

Section 1207.3 of the 2018 I. B. C. scope applies to structure borne sound refers to floor/ceiling assembles between dwelling units or dwelling units and a public area must have an impact insulation class (IIC) of minimum 50 when tested in accordance with ASTM E492, laboratory test. Minimum 45 if field tested.

AccuQuiet® D18, AccuQuiet® D25, and AccuQuiet® DX38 are Ultra Low Compression Mats with rigid vibration technology that provide outstanding sound control attenuation and durability . for use in conjunction with AccuCrete® Pourable Gypsum Underlayments.

AccuQuiet® Sound Control Systems are lab tested to meet and exceed I.B.C. standards. We employ lab testing to ensure results can be transferred from job to job. Field testing is used to verify construction, and results are not transferable from job to job.

AccuQuiet® Sound Control Systems offer a cost-effective noise reduction solution for new or renovation construction.

The lab sound tests incorporate 3/4" of AccuCrete Underlayment minimum over AccuQuiet® Sound Mats as thin as 1/4". Most entangled mesh sound mats require a minimum 1". AccuQuiet® Ultra Low Compression provides durability, as thin as 3/4" pour. UL Designs may be proprietary to truss, joist, ceiling dampers, RC-1 or drywall manufacturers. If a single manufacturer is listed in the design, only their products, and those tested in the UL design are permitted. Value engineering is accomplished by changing UL designs which allow for multiple manufacturers. AccuQuiet® and AccuCrete® have proprietary testing with non RC-1 Deluxe manufacturers. Additional tests are available specifically for RC Philips designs. Please contact your local AccuCrete® applicator for details.

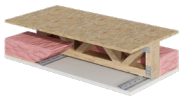
Acoustical Mat Comparison

The most commonly used acoustical mat is an entangled mesh design. Made of nylon or polypropylene, the curly mesh strands have a significant open space between the strands. The curliness acts as a spring when an impact hits the floor, compressing the mat. Compression is a function of the entangled mesh design, but it creates a problem for the underlayment and so threatens the integrity of the floor.

Under normal loading - live load such as a person walking or dead load such as furniture, the compression means the slab is not fully supported. Less resistance to prevent the underlayment from bending is especially prevalent under highly flexible floor coverings like carpet and vinyl. A crack creates a weak spot, and over time with subsequent loading cracks widen and propagate. This wears out the underlayment, entangled mesh and shortens the life of the floor covering. In short, the entangled mesh system is replaced much earlier than expected.

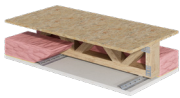
Acoustical Mat	Gypsum	IIC: Vinyl	IIC: Tile	IIC: Wood Lam.	IIC: Vinyl Plank
1/8" Entangled Mesh	3/4"	50	53	50	51
AccuQuiet D18	3/4"	51	53	55	51
AccuQuiet D18	1"	53	54	59	58
1/4" Entangled Mesh	1"	N/A	54	53	
AccuQuiet D25	3/4"	50	54	57	56
AccuQuiet D25	1"	53	55	59	58
3/8" Entangled Mesh	1"	55	56	55	
AccuQuiet DX38	1"	55	58	59	60

The AccuQuiet® system with an ultra low deflection sound mat with AccuCrete® underlayment are engineered to work together to give the right balance between acoustic performance and durability. The top surface of the AccuQuiet® mat features a semi rigid structural grid supported by discreet contact pillars, approximately 1/4" in diameter. All load transfer goes through these pillars, and the mat has contact with only 5% of the surface area for ultra low contact. The compression occurs in the pillars, which makes the AccuQuiet® mat a stronger spring than entangled mesh- and increases the floor systems durability.



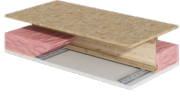
OPEN WEB/PARALLEL CHORD TRUSS 1 HOUR UL DESIGN

AccuCrete UL Design	Other UL	AccuQuiet Sound Mat	AccuCrete Minimum Thickness	Insulation	Framing Minimum Depth	RC-1	Drywall	Floor Covering	Minimum AccuCrete Thickness	AccuQuiet Sound Mat	Sound Rating		Lab Test Number		
											STC	IIC	STC	IIC	
L528	L521		19.1 mm / 3/4inch		12" w/o ceiling damper 18" with ceiling damper		1 layer of 5/8"	Sheet Vinyl	25.4 mm / 1 inch	D18		53		G9540.08-113-11-R1	
L529	L579				12"		Luxury Vinyl Plank				57	G9540.09-113-11-R1			
L534	M500				18"		Luxury Vinyl Plank				58	G9540.10-113-11-R11			
L542	M510		19.1 mm / 3/4 inch 1 inch minimum with sound mat		12"		2 layers 1/2"	Engineered Wood			59	G9540.11-113-11-R1			
L546	M545				12"			Ceramic Tile			54	G9540.12-113-11-R1			
L550					12" w/o ceiling damper 18" with ceiling damper		1 layer of 5/8"	Sheet Vinyl	19.1 mm / 3/4 inch		D25		50	G5325.09-113-11-R1	
L558					12"			Engineered Wood					57	G5325.10-113-11-R1	
L562		D18, D25, DX38	19.1 mm / 3/4inch	12" w/o ceiling damper 18" with ceiling damper	1 layer of 5/8"	Yes	Ceramic Tile	25.4 mm / 1 inch	D18			54	G5325.11-113-11-R1		
L563				18"						Luxury Vinyl Plank			56	G5325.13-113-11-R1	
L574										Luxury Vinyl Plank			58	G5325.12-113-11-R1	
L576				LVT		52	G5325.05-113-11-R1								
L581							LVT			58		G5325.04-113-11-R2			
L583							2 layers 5/8"		Sheet Vinyl	25.4 mm / 1 inch	D25		53	H2989.08-113-11-R0	
L585							Luxury Vinyl Plank					57	H2989.09-113-11-R0		
L587					12" w/o ceiling damper 18" with ceiling damper		1 layers 5/8"	Luxury Vinyl Plank	25.4 mm / 1 inch	D25		58	H2989.10-113-11-R0		
L592							Engineered Wood				59	H2989.11-113-11-R0			
M503							Ceramic Tile				55	H2989.12-113-11-R0			
M508							BARE FLOOR				50	G9530.09-113-11-R1			
M550							Luxury Vinyl Plank		59	G9530.10-113-11-R1					
								Luxury Vinyl Plank	25.4 mm / 1 inch	DX38		53	G9530.11-113-11-R1		
								Sheet Vinyl				52	G9530.12-113-11-R1		
								Sheet Vinyl				55	H3270.09-113-11-R0		
								Engineered Wood				57	G9530.13-113-11-R1		
								Engineered Wood				59	H3270.12-113-11-R0		
								Ceramic Tile				54	G9530.14-113-11-R1		
								Luxury Vinyl Plank				58	G9530.15-113-11-R1		
								Luxury Vinyl Plank				60	H3270.11-113-11-R0		
								Quarry Tile			19.1 mm / 3/4 inch	D18		53	7012009
								Sheet Vinyl						59	5012006
								Sheet Vinyl		51			7012010		
								laminare Flooring		55			7012011		
								Vinyl Plank		51	7012028				



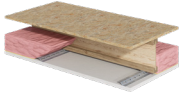
OPEN WEB/ PARALLEL CHORD 2 HOUR UL DESIGN

AccuCrete UL Design	Other UL	AccuQuiet Sound Mat	AccuCrete Minimum Thickness	Insulation	Framing Minimum Depth	RC-1	Drywall	Floor Covering	Minimum AccuCrete Thickness	AccuQuiet Sound Mat	Sound Rating		Lab Test Number	
											STC	IIC	STC	IIC
L577	M521	D18, D25, Dx38	19.1 mm/ 3/4inch	yes	12"	yes	3 layers of 5/8"							



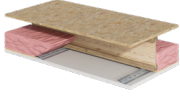
I JOIST 1 HOUR UL DESIGNS

AccuCrete UL Design	Other UL	AccuQuiet Sound Mat	AccuCrete Minimum Thickness	Insulation	Framing Minimum Depth	RC-1	Drywall	Floor Covering	Minimum AccuCrete Thickness	AccuQuiet Sound Mat	Sound Rating		Lab Test Number	
											STC	IIC	STC	IIC
L518		D18, D25, Dx38	19.1 mm/ 3/4inch	yes	9-1/2"	yes	2 layers 1/2"	Sheet Vinyl	19.1 mm/ 3/4 inch	D25		51		H4639.08-113-11-RO
L530	2 layers of 1/2" or 5/8"						LVT	60			H4639.09-113-11-RO			
L570	2 layers of 1/2" or 5/8"						LVT	54			H4639.10-113-11-RO			
L581	10" wood joist, 12" parallel chord, 9-1/2" I joist						Luxury Vinyl Plank	50			H4639.11-113-11-RO			
L583	10" wood joist, 12" parallel chord, 9-1/2" I joist				Engineered Wood		55	H4639.12-113-11-RO						
L589	2 layers of 1/2" or 5/8"				Ceramic Tile		52	H4639.13-113-11-RO						
M502	2 layers of 1/2" or 5/8"													
M506	2 layers of 1/2" or 5/8"													
M535	2 layers of 1/2" or 5/8"													
M553	2 layers of 5/8"													



I JOIST 1-1/2 HOUR UL DESIGNS

AccuCrete UL Design	Other UL	AccuQuiet Sound Mat	AccuCrete Minimum Thickness	Insulation	Framing Minimum Depth	RC-1	Drywall	Floor Covering	Minimum AccuCrete Thickness	AccuQuiet Sound Mat	Sound Rating		Lab Test Number	
											STC	IIC	STC	IIC
L547		D18, D25, Dx38	19.1 mm/ 3/4inch	no	9-1/2"	yes	2 layers 1/2"							
M544	yes			2 layers 5/8"										



I JOIST 2 HOUR UL DESIGNS

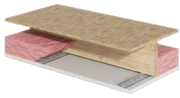
AccuCrete UL Design	Other UL	AccuQuiet Sound Mat	AccuCrete Minimum Thickness	Insulation	Framing Minimum Depth	RC-1	Drywall	Floor Covering	Minimum AccuCrete Thickness	AccuQuiet Sound Mat	Sound Rating		Lab Test Number	
											STC	IIC	STC	IIC
L538		D18, D25, DX38	19.1 mm/ 3/4 inch	no	9- 1/2"	yes	3 layers 5/8"							



2 X 10 WOOD JOIST/ DIMENSIONAL LUMBER 1/2 -3/4 HOUR UL DESIGNS

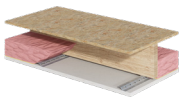
AccuCrete UL Design	Other UL	AccuQuiet Sound Mat	AccuCrete Minimum Thickness	Insulation	Framing Minimum Depth	RC-1	Drywall	Floor Covering	Minimum AccuCrete Thickness	AccuQuiet Sound Mat	Sound Rating		Lab Test Number	
											STC	IIC	STC	IIC
L506		D18, D25, DX38	19.1 mm/ 3/4 inch	no	10"	no	1 layer 1/2"							
L509	yes			1 layer 1/2"										
L520	yes			1 layer 5/8"										
M504	no			1 layer 1/2"										





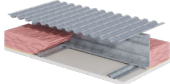
2X10 WOOD JOIST/ DIMMENSIONAL LUMBER 1 HOUR UL DESIGNS

AccuCrete UL Design	Other UL	AccuQuiet Sound Mat	AccuCrete Minimum Thickness	Insulation	Framing Minimum Depth	RC-1	Drywall	Floor Covering	Minimum AccuCrete Thickness	AccuQuiet Sound Mat	Sound Rating		Lab Test Number	
											STC	IIC	STC	IIC
L006	L545		25.4 mm/ 1"	yes		no	dwss	or 1 layer	5/8"					
L201	L569		3/4" w/o sound mat, 1" with sound mat	no		no	dwss							
L202	L588		3/4" w/o sound mat, 1" with sound mat	no		no	dwss	or 1 layer	5/8"					
L206	M514		19.1 mm/ 3/4"	yes		no	lay in panels	or 2 layer	5/8"					
L209	M517		3/4" w/o sound mat, 1" with sound mat	no		no	dwss	or 1 layer	5/8"					
L210	M518		3/4" w/o sound mat, 1" with sound mat	no		no	dwss	or 2 layer	5/8"					
L212	M531		3/4" w/o sound mat, 1" with sound mat	no		no	insulated ceiling membrane	or 1 layer	5/8"					
L501			19.1 mm/ 3/4"	no	10"	no	1 layer of 5/8"							
L502			19.1 mm/ 3/4"	yes		yes	1 layer of 5/8"							
L503			3/4" w/o sound mat, 1" with sound mat	no		no	1 layer of 5/8"							
L504			19.1 mm/ 3/4"	no		no	1 layer of 1/2"							
L507			19.1 mm/ 3/4"	yes		no	1 layer of 1/2"							
L508			3/4" w/o sound mat, 1" with sound mat	yes		yes	1 layer of 5/8"							
L512			19.1 mm/ 3/4"	no		no	1 layer of 1/2" or 5/8"							
L513			19.1 mm/ 3/4"	yes	2" x 10" 24" o.c.	yes	1 layer of 5/8"							
L514			19.1 mm/ 3/4"	yes		yes	1 layer of 1/2"							
L515			19.1 mm/ 3/4"	yes		yes	1 layer of 1/2"							
L516			19.1 mm/ 3/4"	yes		yes	1 layer of 5/8"							
L517			19.1 mm/ 3/4"	no		yes	1 layer of 1/2"							
L519			3/4" w/o sound mat, 1" with sound mat	no		no	1 layer of 1/2"							
L522			3/4" w/o sound mat, 1" with sound mat	no		no	1 layer of 1/2"							
L523			3/4" w/o sound mat, 1" with sound mat	no	10"	yes	1 layer of 5/8"							
L525			19.1 mm/ 3/4"	no		yes	1 layer of 5/8"							
L526			3/4" w/o sound mat, 1" with sound mat	no		no	dwss							
L533			19.1 mm/ 3/4"	yes		yes	1 layer of 5/8"							
L535			19.1 mm/ 3/4"	yes		yes	1 layer of 1/2" or 5/8"							
L537			19.1 mm/ 3/4"	no		no	1 layer of 1/2" or 5/8"							
L539			19.1 mm/ 3/4"	yes	2" x 10" 24" o.c.	no	1 layer of 1/2" or 5/8"							
L540			19.1 mm/ 3/4"	yes	2" x 8" 16" o.c. 2' x 10" 24" o.c.	no	1 layer of 5/8"							
L581			19.1 mm/ 3/4"	yes	2" x 10" / 16" o.c., 12" open web / 24" o.c., 9-1/2" I Joist / 24" o.c.	yes	2 layers 5/8"							
L583			19.1 mm/ 3/4"	yes	10" wood joist, 12" parallel chord, 9-1/2" I joist	yes	2 layers 5/8"							
L590			25.4 mm/ 1"	yes	2" x 10" / 16" o.c. increased to 24" o.c. when battens are used	yes	1 layer of 5/8"							
L593			19.1 mm/ 3/4"	yes	2" x 10" / 16" o.c. increased to 24" o.c. when battens are used	yes	1 layer of 5/8"							
M519			19.1 mm/ 3/4"	yes		yes	1 layer of 5/8"							
M530			19.1 mm/ 3/4"	no	10"	no	1 layer of 5/8"							
M538			19.1 mm/ 3/4"	no		no	1 layer of 5/8"							



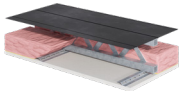
2 X 10 WOOD JOISTS/DIMENSIONAL LUMBER 1-1/2 HOUR UL DESIGNS

AccuCrete UL Design	Other UL	AccuQuiet Sound Mat	AccuCrete Minimum Thickness	Insulation	Framing Minimum Depth	RC-1	Drywall	Floor Covering	Minimum AccuCrete Thickness	AccuQuiet Sound Mat	Sound Rating		Lab Test Number		
											STC	IIC	STC	IIC	
L211		D18, D25, DX38	19.1mm/3/4"	no	10"	no	insulated ceiling membrane								
L505															
L511															
L536			yes	1"	no	8"	yes	2 layers 5/8"							
L541															
L556								1 layer 5/8"							
L510								2 layers 5/8" or dws							
L208							dwss								



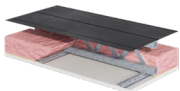
STRUCTURAL STEEL I HOUR UL DESIGN

AccuCrete UL Design	Other UL	AccuQuiet Sound Mat	AccuCrete Minimum Thickness	Insulation	Framing Minimum Depth	RC-1	Drywall	Floor Covering	Minimum AccuCrete Thickness	AccuQuiet Sound Mat	Sound Rating		Lab Test Number	
											STC	IIC	STC	IIC
L524		D18, D25, DX38	19.1 mm/ 3/4"	no	7"	no	2 layers 1/2"							
L560				yes	10"	yes	1 layer 5/8"							



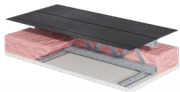
STEEL TRUSS/ STEEL DECK 1 OR 2 HOUR UL DESIGNS

AccuCrete UL Design	Other UL	AccuQuiet Sound Mat	AccuCrete Minimum Thickness	Insulation	Framing Minimum Depth	RC-1	Drywall	Floor Covering	Minimum AccuCrete Thickness	AccuQuiet Sound Mat	Sound Rating		Lab Test Number		
											STC	IIC	STC	IIC	
G578	G551	D18,D25, DX38	1 inch	Yes	9-1/4"	Yes	1 layer 5/8"								
G579	G553				9-1/4"										1-2 layers 5/8"
G581	G560				8"										
G592	G563		19.1 mm/ 3/4 inch	10"	1 layer 5/8"										
M513	G566			prefabricated various depths											
	G574														
	G587														
	G597														
H502			19.1 mm/ 3/4 inch												



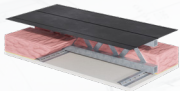
STEEL TRUSS/STEEL DECK 2 HOUR DESIGNS

AccuCrete UL Design	Other UL	AccuQuiet Sound Mat	AccuCrete Minimum Thickness	Insulation	Framing Minimum Depth	RC-1	Drywall	Floor Covering	Minimum AccuCrete Thickness	AccuQuiet Sound Mat	Sound Rating		Lab Test Number	
											STC	IIC	STC	IIC
G577		D18, D25, DX38	25.4 mm/ 1"	yes	9-1/4"	yes	1 layer 5/8"							
G580														
G582														



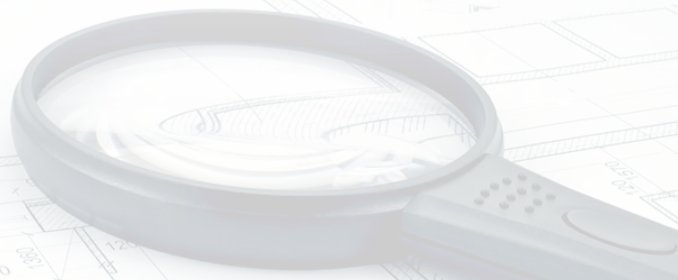
STEEL JOIST/TRUSS AND PLYWOOD SUBFLOOR I HOUR UL DESIGNS

AccuCrete UL Design	Other UL	AccuQuiet Sound Mat	AccuCrete Minimum Thickness	Insulation	Framing Minimum Depth	RC-1	Drywall	Floor Covering	Minimum AccuCrete Thickness	AccuQuiet Sound Mat	Sound Rating		Lab Test Number		
											STC	IIC	STC	IIC	
L543	L564	D18, D25, DX38	19.1 mm/ 3/4 inch	yes	8"	yes	2 layers 1/2"								
L549	L567				various depending upon manufacturer										1 layer 5/8"
L551															
L573					2 layers 5/8"										



STEEL JOIST/PLYWOOD SUBFLOOR 1-1/2 HOUR UL DESIGNS

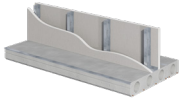
AccuCrete UL Design	Other UL	AccuQuiet Sound Mat	AccuCrete Minimum Thickness	Insulation	Framing Minimum Depth	RC-1	Drywall	Floor Covering	Minimum AccuCrete Thickness	AccuQuiet Sound Mat	Sound Rating		Lab Test Number	
											STC	IIC	STC	IIC
L527		D18, D25, DX38	19.1 mm/ 3/4"	no	9-3/8"	yes	2 layers 5/8"							





PRECAST CONCRETE 1, 2, AND 3 HOUR UL DESIGNS

AccuCrete UL Design	Other UL	AccuQuiet Sound Mat	AccuCrete Minimum Thickness	Insulation	Framing Minimum Depth	RC-1	Drywall	Floor Covering	Minimum AccuCrete Thickness	AccuQuiet Sound Mat	Sound Rating		Lab Test Number	
											STC	IIC	STC	IIC
J917	J991	D18, D25, DX38	1/2" w/o sound mat, 3/4" with sound mat 19.1 mm/ 3/4"	no	normal weight precast concrete	no	no	BARE FLOOR	none	none	56	30	I1394.12-113-11-R0	I1394.13-113-11-R0
J920								7.8 mm LVT	DX38	25.4 mm/ 1 inch	55	50	I1394.14-113-11-R0	I1394.15-113-11-R0
J927								12.7 mm Engineered Wood	DX38	25.4 mm/ 1 inch		51		I1394.16-113-11-R0
J931								7.8 mm Ceramic Tile	DX38	25.4 mm/ 1 inch		51		I1394.17-113-11-R0
J957								Carpet/pad	DX38	25.4 mm/ 1 inch		83		I1394.18-113-11-R0
J958														



PRECAST CONCRETE 1-1/2, 2, 3 AND 4 HOUR UL DESIGNS

AccuCrete UL Design	Other UL	AccuQuiet Sound Mat	AccuCrete Minimum Thickness	Insulation	Framing Minimum Depth	RC-1	Drywall	Floor Covering	Minimum AccuCrete Thickness	AccuQuiet Sound Mat	Sound Rating		Lab Test Number						
											STC	IIC	STC	IIC					
J994		D18, D25, DX38	2 hour- 1/2" thick underlayment 3 hour- 1" thick underlayment 3 hour- 1/2" thick underlayment 4 hour- 5/8" thick underlayment 2,3 hour- no topping 4 hour- 1/2" thick underlayment	no	8"	no	no												
J991																			



PRECAST CONCRETE 2, 3, AND 4 HOUR UL DESIGNS

AccuCrete UL Design	Other UL	AccuQuiet Sound Mat	AccuCrete Minimum Thickness	Insulation	Framing Minimum Depth	RC-1	Drywall	Floor Covering	Minimum AccuCrete Thickness	AccuQuiet Sound Mat	Sound Rating		Lab Test Number					
											STC	IIC	STC	IIC				
J919		D18, D25, DX38	19.1 mm/ 3/4"	spray	normal weight precast concrete units													
J924		no	2 hour- no minimum 3 hour- 1/2" thick	no	8"	no	no											
		D18, D25, DX38	4 hour- 3/4" thick															
		no	2 hour- no minimum 3 hour- no minimum					10"										
			4 hour- 1/2" thick															

For more information on any of the UL designs, sound test results, or for any other question, please contact us.

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