D3O® Material Sheet Guide

D3O®

D3O® Sheet Materials

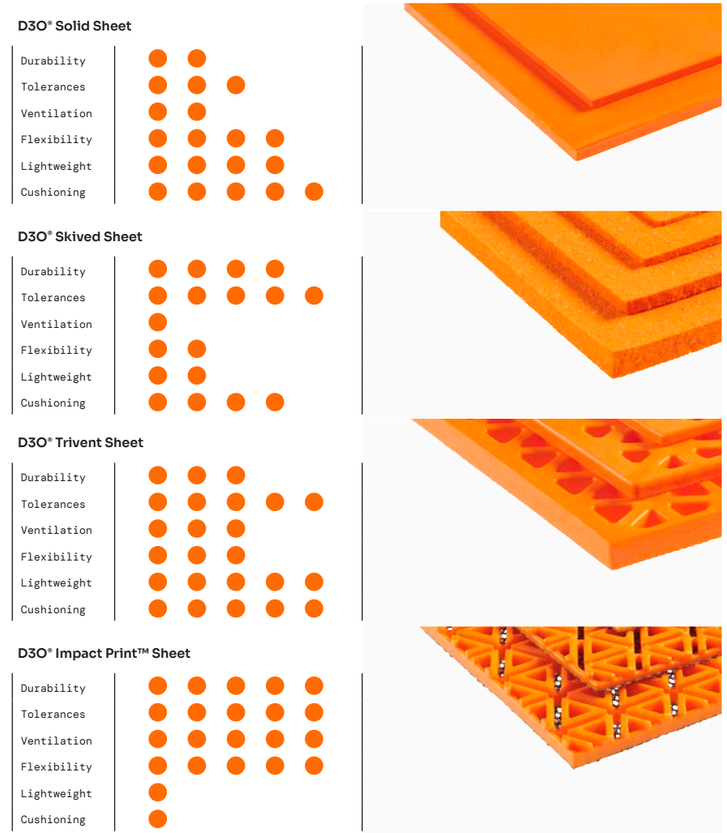
Mitigate Fear. Prevent Injury. D3O's dilatant materials are designed to absorb and dissipate energy in response to blunt force impact.

D3O has various sheet material options designed for simple integration into your product range:

- Fastest route to market with a D3O solution, no development required
- Easy to post-process and integrate within finished product
- High-impact performing, low profile, flexible solutions
- 4 different sheet constructions
- 8 different material formulations

No matter the application, D3O has sheet options to help take your product to the next level.

Step 1: Pick the Type of Sheet



Step 2: Pick the Formulation

High density
High impacts

Formulation	Impact type	Density (4mm)	Hardness (4mm)	Temperature stability	Material Type
Impact Print™	High energy	1.13	55 (Shore A)	Great (geometry)	Set Elastomer
XTi	High energy	0.52	76 (Shore 00)	Good	Set Foams
ST	High energy	0.48	76 (Shore 00)	Low	
DECELL	Low-mid energy	0.39	70 (Shore 00)	Good	
AERO	Low-mid energy	0.37	58 (Shore 00)	Average	
AEROMAX	Low-mid energy	0.23	40 (Shore 00)	Average	
US Decell TRUST* (Berry Compliant)	Low-mid energy	0.22	58 (Shore 00)	Good	
ZERO Mid	Low energy	0.29	60 (Shore 00)	Great	Recycled Foams
ZERO Low	Low energy	0.24	49 (Shore 00)	Great	

Low density
Low impacts

*US Decell TRUST: density and hardness data based on 5mm sheet

Step 3: Pick the Dimensions

High density
High impacts

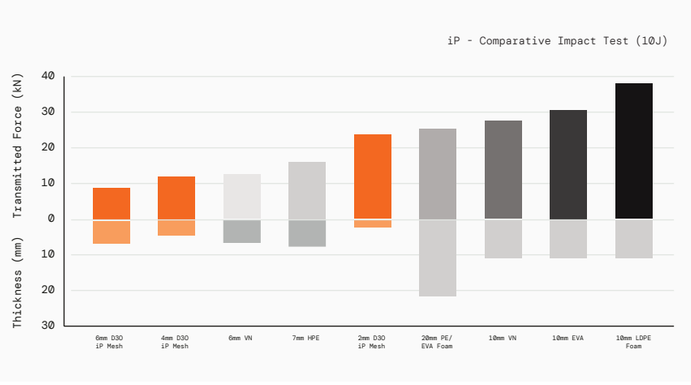
Formulation	Solid 369 x 255mm	Skived 332 x 300mm	Skived 1000 x 1000mm	TriVent 490 x 290mm	Impact Print™ 500 x 500mm
Impact Print™					2, 4, 6mm
XTi	4, 6, 10mm			4, 6, 10mm	
ST	4, 6, 10mm			4, 6, 10mm	
DECELL	4, 6mm			4, 6mm	
AERO	4, 6mm			4, 6mm	
AEROMAX			2, 4, 6, 8, 10mm		
US Decell TRUST (Berry-Compliant)		2, 4, 6, 10mm			
ZERO Low/Mid			2, 4, 6, 8, 10mm		

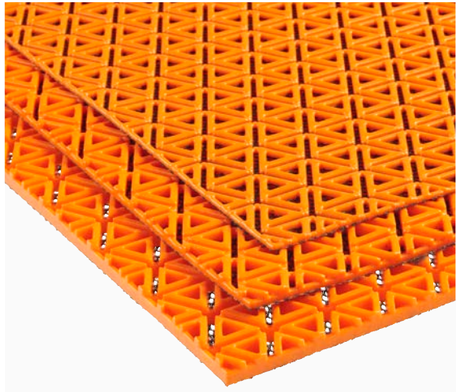
Low density
Low impacts

Impact Print™ (iP)

Sports · Workwear · Motorcycle · Electronics · Defense

D3O® iP sheet delivers the most flexible, durable protection on the market. Its open geometry combined with mesh fabric provides complete freedom of movement, increased air flow and breathability.





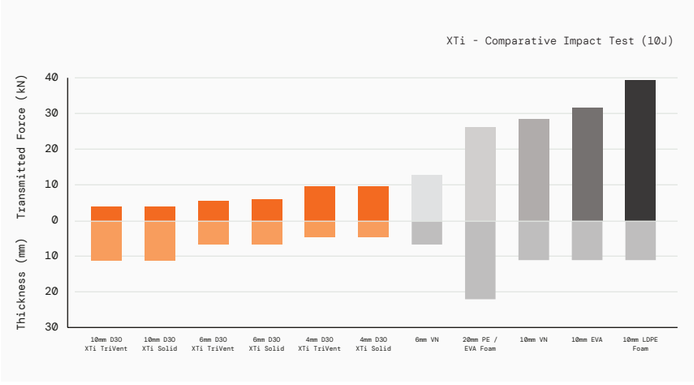
Impact Print™

Material	Impact Print™					
Product Name	Orange Mesh 2mm	Orange Mesh 4mm	Orange Mesh 6mm	Orange Lycra 2mm	Orange Lycra 4mm	Orange Lycra 6mm
Product Code	14205	14055	14056	14204	14108	14109
Colour	Orange	Orange	Orange	Orange	Orange	Orange
Dimensions (mm)	500 x 500	500 x 500	500 x 500	500 x 500	500 x 500	500 x 500
Thickness (mm)	2	4	6	2	4	6
Density (g/cm³)	1.13	1.13	1.13	1.13	1.13	1.13
Material Type	Impact Print™	Impact Print™	Impact Print™	Impact Print™	Impact Print™	Impact Print™
Fabric	Mesh	Mesh	Mesh	Lycra	Lycra	Lycra

XTi

Sports · Workwear · Electronics · Defense

Optimised for high impact energies, D3O® XTi provides soft, flexible and lightweight impact protection frequently used for limb protectors in motorcycle and sport.



TriVent Sheet

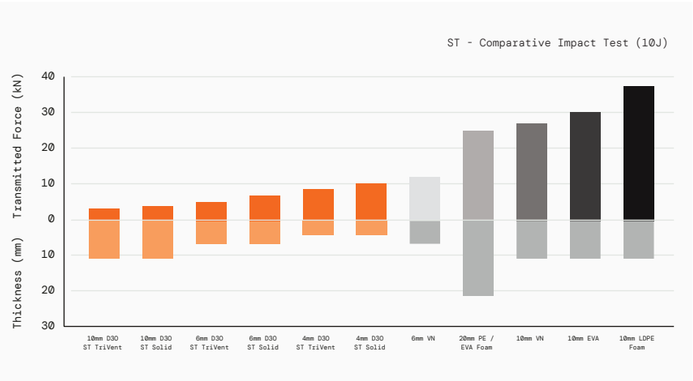
Solid Sheet (Skinned)

Material	XTi					
Product Name	Solid 4mm	Solid 6mm	Solid 10mm	TriVent 4mm	TriVent 6mm	TriVent 10mm
Product Code	11081	11082	14260	14047	14048	14050
Colour	Orange	Orange	Orange	Orange	Orange	Orange
Dimensions (mm)	369 x 255	369 x 255	369 x 255	490 x 290	490 x 290	490 x 290
Thickness (mm)	4	6	10	4	6	10
Density (g/cm³)	0.52			0.62	0.58	0.55
Material Type	Foam	Foam	Foam	Foam	Foam	Foam

ST

Sports Workwear Motorcycle Electronics Defense

Designed for markets where high impact energies are experienced, D3O® ST is a soft, flexible and versatile material frequently used within limb, back and chest protectors.



TriVent Sheet

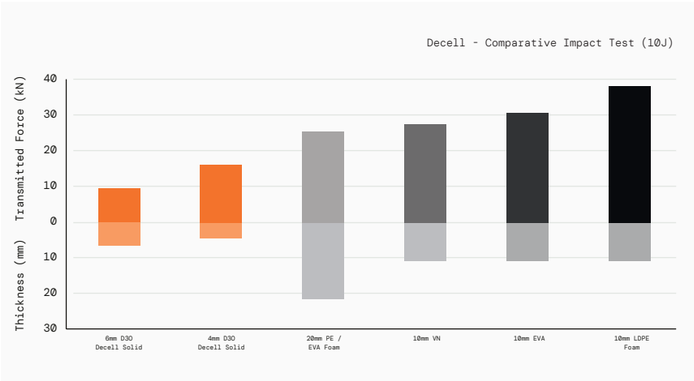
Solid Sheet (Skinned)

Material	ST					
Product Name	Solid 4mm	Solid 6mm	Solid 10mm	TriVent 4mm	TriVent 6mm	TriVent 10mm
Product Code	13127	10983	14259	14208	14209	14210
Colour	Orange	Orange	Orange	Orange	Orange	Orange
Dimensions (mm)	369 x 255	369 x 255	369 x 255	490 x 290	490 x 290	490 x 290
Thickness (mm)	4	6	10	4	6	10
Density (g/cm³)	0.50	0.50	0.45	0.52	0.48	0.45
Material Type	Foam	Foam	Foam	Foam	Foam	Foam

Decell

Sports Workwear Electronics Defense

D3O® Decell is the material of choice for insoles and heel inserts, as it offers maximum protection whilst providing a softer, lighter ride. Optimised for moderate to high impact energies, it is designed for markets where high durability is key.



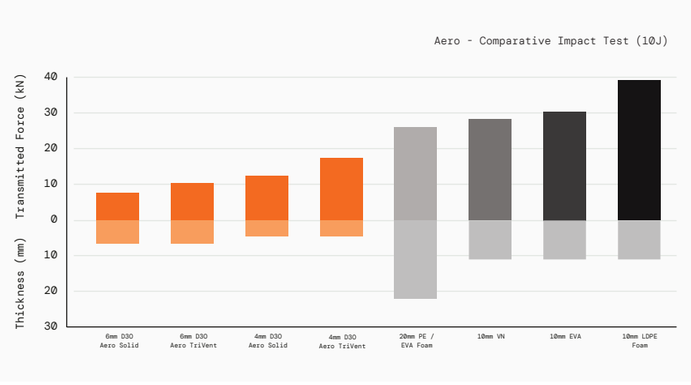
Solid Sheet (Skinned)

Material	Decell								
Product Name	Solid 4mm	Solid 6mm	Skived 2mm	Skived 4mm	Skived 6mm	Skived 8mm	Skived 10mm	TriVent 4mm	Trivent 6mm
Product Code	11350	11217	12900	14495	14496	15187	15188	14051	14052
Colour	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange
Dimensions (mm)	369 x 255	369 x 255	369 x 255	369 x 255	369 x 255	369 x 255	369 x 255	490 x 290	490 x 290
Thickness (mm)	4	6	2	4	6	8	10	4	6
Density (g/cm³)	0.39	0.37	0.30	0.30	0.30	0.30	0.30	0.48	0.45
Material Type	Foam	Foam	Foam	Foam	Foam	Foam	Foam	Foam	Foam

Aero

Sports Workwear Motorcycle Electronics Defense

A lightweight, versatile material optimised for low to moderate impact energies, D3O® Aero is frequently used for helmet liners, palm padding, back-of-hand protection and back protectors.



TriVent Sheet

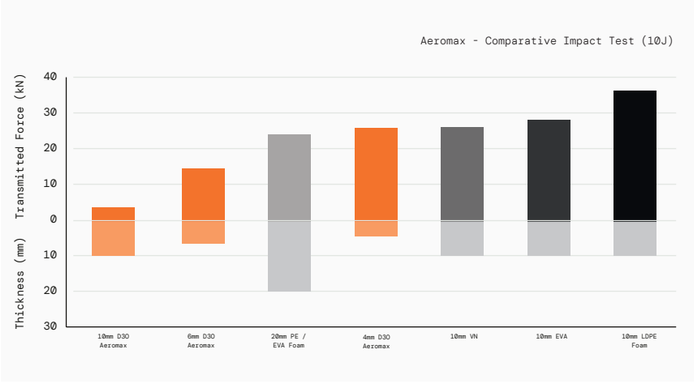
Solid Sheet (Skinned)

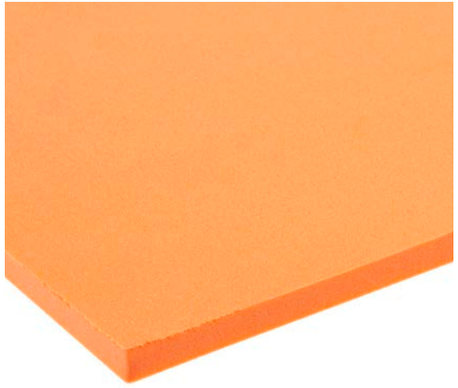
Material	Aero			
Product Name	Solid 4mm	Solid 6mm	TriVent 4mm	TriVent 6mm
Product Code	11191	11192	14206	14207
Colour	Orange	Orange	Orange	Orange
Dimensions (mm)	369 x 255	369 x 255	490 x 290	490 x 290
Thickness (mm)	4	6	4	6
Density (g/cm³)	0.37	0.33	0.35	0.30
Material Type	Foam	Foam	Foam	Foam

Aeromax

Sports Workwear Motorcycle Electronics Defense

D3O® AeroMax takes similar performance properties of D3O® Aero and makes it available in larger sheets.





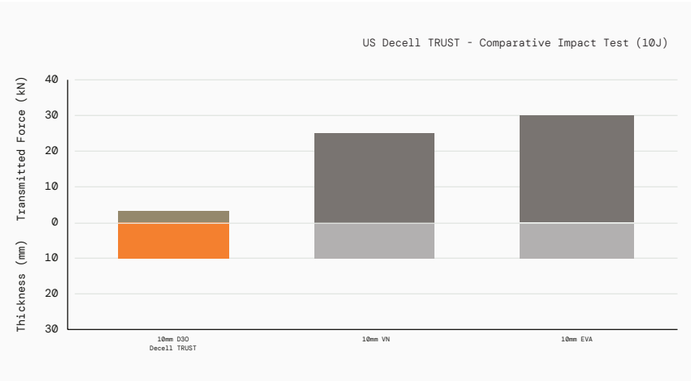
Skived Sheet

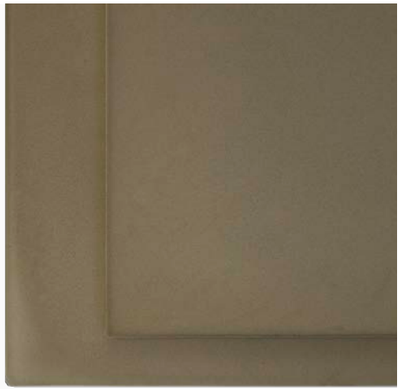
Material	Aeromax				
Product Name	Skived 2mm	Skived 4mm	Skived 6mm	Skived 8mm	Skived 10mm
Product Code	13440	13441	13657	14195	13591
Colour	Orange	Orange	Orange	Orange	Orange
Dimensions (mm)	1000 x 1000	1000 x 1000	1000 x 1000	1000 x 1000	1000 x 1000
Thickness (mm)	2	4	6	8	10
Density (g/cm³)	0.22	0.22	0.22	0.22	0.22
Material Type	Foam	Foam	Foam	Foam	Foam

US Decell TRUST

Defense

Highly suitable for padding and cushioning, Berry Compliant D3O® US Decell TRUST was designed for military use in helmets and limb protection applications.





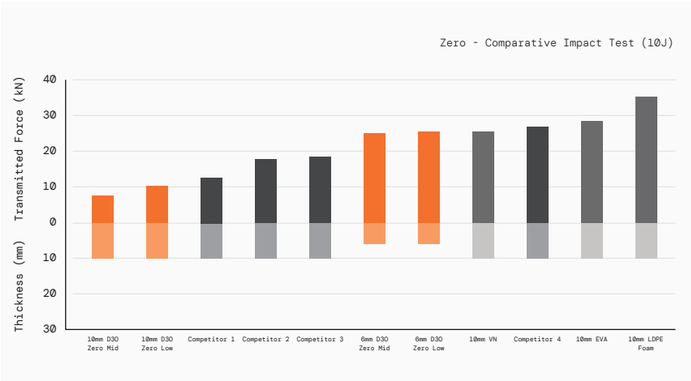
US Decell TRUST Sheet

Material	US Decell TRUST	
Product Name	US Decell TRUST Skived 3mm Sheet	US Decell TRUST Skived 5mm Sheet
Product Code	14309	14310
Colour	Tan 499	Tan 499
Dimensions (mm)	305 x 584	305 x 584
Thickness (mm)	3	5
Density (g/cm³)	0.22	0.22
Material Code	SF019	SF019
Material Type	Set Foam	Set Foam

Zero™

Sports Workwear Electronics Defense

Created by recycling surplus material from D3O factories, D3O® Zero™ is the first recycled grade D3O® impact protective material, offering maximum impact protection, while working towards zero waste.



Skived Sheet

Material	Zero™ Low					D3O® Zero™ Mid				
Product Name	Skived 2mm	Skived 4mm	Skived 6mm	Skived 8mm	Skived 10mm	Skived 2mm	Skived 4mm	Skived 6mm	Skived 8mm	Skived 10mm
Product Code	13486	13488	13619	14200	13490	13487	13489	13618	14199	13491
Colour	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange
Dimensions (mm)	1000 x 1000	1000 x 1000	1000 x 1000	1000 x 1000	1000 x 1000	1000 x 1000	1000 x 1000	1000 x 1000	1000 x 1000	1000 x 1000
Thickness (mm)	2	4	6	8	10	2	4	6	8	10
Density (g/cm³)	0.23	0.23	0.23	0.23	0.23	0.27	0.27	0.27	0.27	0.27
Material Type	Foam	Foam	Foam	Foam	Foam	Foam	Foam	Foam	Foam	Foam

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