

ZERO™

Sheets

Mitigate Fear. Prevent Injury.

D30's materials are designed to absorb and dissipate energy in response to blunt force impact.

D30 Zero is the first recycled grade D30 material, offering superior impact protection, while working towards zero waste. Created by recycling surplus material from D30 factories and available in skived sheet formats, D30 Zero is suitable for use in multiple protection applications.

Product Features

- Suitable for low to moderate impact energies
- Available in 4, 6 and 10mm thicknesses
- Can be formulated without the use of PFAS or organotin compounds upon request

Product Details

Material	Zero™ Low					D30® Zero™ Mid				
	Skived 2mm	Skived 4mm	Skived 6mm	Skived 8mm	Skived 10mm	Skived 2mm	Skived 4mm	Skived 6mm	Skived 8mm	Skived 10mm
Product Name										
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
Material Type	Foam	Foam	Foam	Foam	Foam	Foam	Foam	Foam	Foam	Foam



ZERO™ Low

Sheets

Physical Properties

Property	Unit	Test Method	Test Condition	Value
Thickness	mm	-	-	10
Density	kg/m ³	ISO 845:2009	-	235
Hardness	Shore OO	ASTM D2240-05 (2010); 3s	23°C, 50% RH	54
Compressive Stress at 25% Strain	MPa	ISO 3386-1:1997; 100mm/ min	23°C, 50% RH	0.09
Compressive Stress at 50% Strain	MPa	ISO 3386-1:1997; 100mm/ min	23°C, 50% RH	0.29
Compression Set	%	EN ISO 1856:2000; Method B 50% Compression, 72 h	23°C, 50% RH	6.7
Dimensional Stability, Max Change	%	EN ISO 2440:2000	72 hrs at 125°C	<1%
			20 hrs at 85°C 100% RH	<1%
Tensile Strength	MPa	ISO 1798:2008; 500mm/ min	23°C, 50% RH	0.25
Tensile Elongation at Break	%	ISO 1798:2008; 500mm/ min	23°C, 50% RH	156
Tear Strength	n/mm	SATRA TM65/ BS 5131- 2.6:1979; 100mm/min	23°C, 50% RH	0.44
Flexural Stress at 10% Strain	MPa	DTS052*; 100mm/min	23°C, 50% RH	0.04

Dynamic Performance

Property	Unit	Test Method	Test Condition	Value
10J Impact Peak Transmitted Force	kN	EN 1621:1 2.5kg	23°C, 50% RH	15.8
20J Impact Peak Transmitted Force	kN	EN 1621:1 2.5kg	23°C, 50% RH	37.0
30J Impact Peak Transmitted Force	kN	EN 1621:1 5kg	23°C, 50% RH	n/a
50J Impact Peak Transmitted Force	kN	EN 1621:1 5kg	23°C, 50% RH	n/a
4.2J Footwear Deceleration	g	SATRA TM142/ ASTM F1614-99 (2006)	23°C, 50% RH	24.0
4.2J Footwear Energy Return	%	ASTM F1614-99 (2006)	23°C, 50% RH	24.0

Environmental Properties

Property	Unit	Test Method	Test Condition	Value
Water Absorption, Weight Gain	%	DTS028**; 168hrs	23°C	225
Bio-based Content, Total Organic Carbon	%	ISO-16620-2:2019 Method C (AMS) TOC	-	9
PFAS Content (TOF)	ppm	ASTM D7359:2018 - 10 ppm detection limit	Not Detected	Not Detected
Organotin Content	ppm	CEN ISO/TS 16179: 2012 - GC-MS	Not Detected	Not Detected

* 17.5mm radius semi circular striker deflects sample sitting on supports with span length of 50mm at a rate of 100mm/min. The Flexural Stress (Mpa) at 10% Flexure Strain is calculated.
** Samples submerged in water maintained at 23C for 168hrs. After submersion, excess surface water removed with dry cloth. Samples weighed before and after testing and a percentage difference is calculated

ZERO™ Mid Sheets

Physical Properties

Property	Unit	Test Method	Test Condition	Value
Thickness	mm	-	-	10
Density	kg/m ³	ISO 845:2009	-	288
Hardness	Shore OO	ASTM D2240-05 (2010); 3s	23°C, 50% RH	62
Compressive Stress at 25% Strain	MPa	ISO 3386-1:1997; 100mm/min	23°C, 50% RH	0.14
Compressive Stress at 50% Strain	MPa	ISO 3386-1:1997; 100mm/min	23°C, 50% RH	0.43
Compression Set	%	EN ISO 1856:2000; Method B 50% Compression, 72 h	23°C, 50% RH	5.79
Dimensional Stability, Max Change	%	EN ISO 2440:2000	72 hrs at 125°C	<1%
			20 hrs at 85°C 100% RH	<1%
Tensile Strength	MPa	ISO 1798:2008; 500mm/min	23°C, 50% RH	0.367
Tensile Elongation at Break	%	ISO 1798:2008; 500mm/min	23°C, 50% RH	165
Tear Strength	n/mm	SATRA TM65/ BS 5131-2.6:1979; 100mm/min	23°C, 50% RH	0.65
Flexural Stress at 10% Strain	MPa	DTS052*; 100mm/min	23°C, 50% RH	0.07

Dynamic Performance

Property	Unit	Test Method	Test Condition	Value
10J Impact Peak Transmitted Force	kN	EN 1621:1 2.5kg	23°C, 50% RH	9.5
20J Impact Peak Transmitted Force	kN	EN 1621:1 2.5kg	23°C, 50% RH	27.5
30J Impact Peak Transmitted Force	kN	EN 1621:1 5kg	23°C, 50% RH	n/a
50J Impact Peak Transmitted Force	kN	EN 1621:1 5kg	23°C, 50% RH	n/a
4.2J Footwear Deceleration	g	SATRA TM142/ ASTM F1614-99 (2006)	23°C, 50% RH	26.7
4.2J Footwear Energy Return	%	ASTM F1614-99 (2006)	23°C, 50% RH	26.3

Environmental Properties

Property	Unit	Test Method	Test Condition	Value
Water Absorption, Weight Gain	%	DTS028**; 168hrs	23°C	223
Bio-based Content, Total Organic Carbon	%	ISO-16620-2:2019 Method C (AMS) TOC	-	10
PFAS Content (TOF)	ppm	ASTM D7359:2018 - 10 ppm detection limit	Not Detected	Not Detected
Organotin Content	ppm	CEN ISO/TS 16179: 2012 - GC-MS	Not Detected	Not Detected

* 17.5mm radius semi circular striker deflects sample sitting on supports with span length of 50mm at a rate of 100mm/min. The Flexural Stress (Mpa) at 10% Flexure Strain is calculated.
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