

ORFIT[®] ECO 2.4 mm (3/32")

Thickness Perforation	mm (inches) % (type)	2.4 (3/32) 0 (non perfo)	2.4 (3/32) 3.5 (mini)
nermoforming conditions			
Optimum activation temperature (in water bath)	°C (°F)	65 (149)	65 (149)
Activation time (in water bath)	minutes	3 - 4	3 - 4
Transparent when activated		no	no
Working time	minutes	1 3/4 - 2 1/4	1 ½ - 2
Hardening time	minutes	4 1/4 - 4 3/4	4 - 4 ½
Time to completion	minutes	17 - 18	16 - 17
Resistance to stretch		high	high
Drape		high	high
Memory (after 200 % elongation)		moderate	moderate
Maximum elongation when activated	%	450	170
Memory (after maximum elongation)		moderate	moderate
Sticks to itself when activated and wet		no	no
Sticks to itself when activated, after drying		reliable under	reliable under
		low stress	low stress
Adhesion (velcro strip) using heat gun		no	no
lechanical properties at 21°C			
Flexural modulus	MPa	575	470
Elastic modulus	MPa	420	365
Tensile strength	MPa	15.0	11.0
Strain at break	%	415	40
eneral properties			
Density	g cm ⁻³	1.25	1.25
Hardness (shore D)	-	58	58
Surface feeling		smooth	smooth
Color		off-white / beige	off-white / beige
Odor		none	none
Fatigue 90° bending	cycles	10000	10000
Fatigue 60° bending	cycles	15000	15000
ratigue od bending	Cycles	13000	13000



ORFIT[®] ECO 3.2 mm (1/8")

Thickness Perforation	mm (inches) % (type)	3.2 (1/8) 0 (non perfo)	3.2 (1/8) 3.5 (mini)
hermoforming conditions			
Optimum activation temperature (in water bath)	°C (°F)	65 (149)	65 (149)
Activation time (in water bath)	minutes	3 - 4	3 - 4
Transparent when activated		no	no
Working time	minutes	2 ½ - 3	2 - 2 ½
Hardening time	minutes	6 - 6 ½	5 ½ - 6
Time to completion	minutes	21 - 22	17 - 18
Resistance to stretch		high	high
Drape		high	high
Memory (after 200 % elongation)		moderate	moderate
Maximum elongation when activated	%	330	180
Memory (after maximum elongation)		moderate	moderate
Sticks to itself when activated and wet		no	no
Sticks to itself when activated, after drying		reliable under	reliable under
		low stress	low stress
Adhesion (velcro strip) using heat gun		no	no
lechanical properties at 21°C			
Flexural modulus	MPa	575	470
Elastic modulus	MPa	420	365
Tensile strength	MPa	15.0	11.0
Strain at break	%	140	65
eneral properties			
Density	g cm ⁻³	1.25	1.25
Hardness (shore D)		58	58
Surface feeling		smooth	smooth
Color		off-white / beige	off-white / beige
Odor		none	none
Fatigue 90° bending	cycles	10000	10000
Fatigue 60° bending	cycles	15000	15000
Biocompatible	-	yes	yes



ORFIT® ECO BLACK NS 2.4 mm (3/32")

	% (type)	0 (non perfo)	2.4 (3/32) 3.5 (mini)
Thermoforming conditions			
Optimum activation temperature (in water bath)	°C (°F)	65 (149)	65 (149)
Activation time (in water bath)	minutes	3 - 4	3 - 4
Transparent when activated		no	no
Working time	minutes	1 3/4 - 2 1/4	1 ½ - 2
Hardening time	minutes	4 1/4 - 4 3/4	4 - 4 1/2
Time to completion	minutes	17 - 18	16 - 17
Resistance to stretch		high	high
Drape		high	high
Memory (after 200 % elongation)		moderate	moderate
Maximum elongation when activated	%	450	170
Memory (after maximum elongation)		moderate	moderate
Sticks to itself when activated and wet		no	no
Sticks to itself when activated, after drying		temporarily	temporarily
Adhesion (velcro strip) using heat gun		no	no
Mechanical properties at 21°C			
Flexural modulus	MPa	575	470
Elastic modulus	MPa	420	365
Tensile strength	MPa	15.0	11.0
Strain at break	%	415	40
General properties			
Density	g cm ⁻³	1.25	1.25
Hardness (shore D)	-	58	58
Surface feeling		smooth	smooth
Color		black	black
Odor		none	none
Fatigue 90° bending	cycles	10000	10000
Fatigue 60° bending	cycles	15000	15000
Biocompatible	,	yes	yes



ORFIT® ECO BLACK NS 3.2 mm (1/8")

Thermoforming conditions Optimum activation temperature (in water bath)	Thickness	mm (inches)	3.2 (1/8)	3.2 (1/8)
Optimum activation temperature (in water bath) Activation time (in water bath) Activation time (in water bath) Activation time (in water bath) Transparent when activated no Nowling time minutes 2 ½ - 3 2 - 2½ Hardening time minutes 6 - 6½ 5½ - 6 Time to completion Resistance to stretch high Memory (after 200 % elongation) Memory (after 200 % elongation) Memory (after maximum elongation) Memory (after maximum elongation) Sticks to itself when activated and wet Sticks to itself when activated, after drying Adhesion (velcro strip) using heat gun MPa Elastic modulus MPa 420 365 Tensile strength MPa 15.0 11.0 Strain at break MPa 15.0 11.0 Strain at break MPa 15.0 11.0 Strain at break MPa 1.25 1.25 Afton one Surface feeling Sunooth Smooth Smooth Smooth Smooth Smooth Smooth Smooth Slack Odor	Perforation	% (type)	0 (non perfo)	3.5 (mini)
Activation time (in water bath) minutes 3 - 4 3 - 4 Transparent when activated no no no Working time minutes 2 ½ - 3 2 - 2½ Hardening time minutes 6 - 6 ½ 5 ½ - 6 Time to completion minutes 21 - 22 17 - 18 Resistance to stretch high high high high high high high hi	hermoforming conditions			
Activation time (in water bath) minutes 3 - 4 3 - 4 17 ransparent when activated no no no Working time minutes 2 ½ - 3 2 - 2½ Hardening time minutes 6 - 6 ½ 5 ½ - 6 Time to completion minutes 21 - 22 17 - 18 Resistance to stretch high high high high high high high hi	Ontimum activation temperature (in water bath	°C (°E)	65 (149)	65 (149)
Transparent when activated no no no Working time minutes 2 ½ - 3 2 - 2 ½ Hardening time minutes 6 - 6 ½ 5 ½ - 6 Time to completion minutes 21 - 22 17 - 18 Resistance to stretch high high high high Memory (after 200 % elongation) moderate moderate Maximum elongation when activated % 330 180 Memory (after maximum elongation) moderate moderate Memory (after maximum elongation) no no Sticks to itself when activated and wet no no no Mechanical properties at 21°C Flexural modulus MPa 575 470 11.0 Strain at break MPa 15.0 11.0 Strain at break % 140 65 General properties Density g cm³ 1.25 1.25 1.25 1.25 Mardness (shore D) 58 58 58 58 Surface feeling smooth smooth Color black black Odor none none			· ·	• •
Working time minutes 2 ½ - 3 2 - 2 ½ Hardening time minutes 6 - 6 ½ 5 ½ - 6 Time to completion minutes 21 - 22 17 - 18 Resistance to stretch high high high high high high high hi		minutes		
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Time to completion minutes 21 - 22 17 - 18 Resistance to stretch high high high high high high high hi				
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Memory (after 200 % elongation) moderate moderate Maximum elongation when activated % 330 180 Memory (after maximum elongation) moderate moderate Sticks to itself when activated and wet no no Sticks to itself when activated, after drying temporarily temporarily Adhesion (velcro strip) using heat gun no no Mechanical properties at 21°C Flexural modulus MPa 575 470 Elastic modulus MPa 420 365 Tensile strength MPa 15.0 11.0 Strain at break % 140 65 General properties Density g cm³ 1.25 1.25 Hardness (shore D) 58 58 Surface feeling smooth smooth Color black black Odor none none			-	-
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Sticks to itself when activated, after drying temporarily temporarily Adhesion (velcro strip) using heat gun no no Mechanical properties at 21°C Flexural modulus MPa 575 470 Elastic modulus MPa 420 365 Tensile strength MPa 15.0 11.0 Strain at break % 140 65 General properties Density g cm-3 1.25 1.25 Hardness (shore D) 58 58 Surface feeling smooth smooth Color black black Odor none none	· ·		moderate	moderate
Adhesion (velcro strip) using heat gun no no Mechanical properties at 21°C Flexural modulus MPa 575 470 Elastic modulus MPa 420 365 Tensile strength MPa 15.0 11.0 Strain at break % 140 65 General properties Density g cm³ 1.25 1.25 Hardness (shore D) 58 58 Surface feeling smooth smooth Color black black Odor none none	Sticks to itself when activated and wet		no	no
Mechanical properties at 21°C Flexural modulus MPa 575 470 Elastic modulus MPa 420 365 Tensile strength MPa 15.0 11.0 Strain at break % 140 65 General properties Density g cm-3 1.25 1.25 Hardness (shore D) 58 58 Surface feeling smooth smooth Color black black Odor none none	Sticks to itself when activated, after drying		temporarily	temporarily
Flexural modulus MPa 575 470 Elastic modulus MPa 420 365 Tensile strength MPa 15.0 11.0 Strain at break % 140 65 General properties Density g cm-3 1.25 1.25 Hardness (shore D) 58 58 Surface feeling smooth color black black Odor none none	Adhesion (velcro strip) using heat gun		no	no
Elastic modulus MPa 420 365 Tensile strength MPa 15.0 11.0 Strain at break % 140 65 General properties Density g cm-3 1.25 1.25 Hardness (shore D) 58 58 Surface feeling smooth color black black Odor none none	Aechanical properties at 21°C			
Tensile strength MPa 15.0 11.0 Strain at break % 140 65 General properties Density g cm-3 1.25 1.25 Hardness (shore D) 58 58 58 Surface feeling smooth color black black Odor none none	Flexural modulus	MPa	575	470
Strain at break % 140 65 General properties Density g cm ⁻³ 1.25 1.25 Hardness (shore D) 58 58 Surface feeling smooth smooth Color black black Odor none none	Elastic modulus	MPa	420	365
Density g cm-3 1.25 1.25 Hardness (shore D) 58 58 Surface feeling smooth color black black Odor none none	Tensile strength	MPa	15.0	11.0
Density g cm-3 1.25 1.25 Hardness (shore D) 58 58 Surface feeling smooth smooth Color black black Odor none none	Strain at break	%	140	65
Hardness (shore D)5858Surface feelingsmoothsmoothColorblackblackOdornonenone	eneral properties			
Hardness (shore D)5858Surface feelingsmoothsmoothColorblackblackOdornonenone	Density	g cm ⁻³	1.25	1.25
Surface feelingsmoothsmoothColorblackblackOdornonenone	Hardness (shore D)	-	58	58
Odor none none	Surface feeling		smooth	smooth
	Color		black	black
Estigue 00° honding	Odor		none	none
ratigue 30 pending cycles 10000 10000	Fatigue 90° bending	cycles	10000	10000
Fatigue 60° bending cycles 15000 15000		cycles	15000	15000
Biocompatible yes yes	Biocompatible		yes	yes

TECHNICAL DATA SHEET



INFORMATION

The hardening time indicates the time period during which the material remains flexible, but no longer mouldable.

The time to completion indicates the length of time until the orthosis is finished and can be worn by the patient.

The memory indicates the ability of the material to regain its original shape after reheating.

The flexural modulus indicates the resistance of the material to a force causing it to bend.

The elastic modulus defines the ratio of the applied tensile stress to the change in shape of the material.

The tensile strength is the pulling force required to break the material.

The strain at break is the length increase of the material when stretched until failure.

The hardness indicates the resistance of the material to compression.

Fatigue indicates the minimum number of stress cycles the material sustains when bending over 90 degrees without failure.

The biocompatibility is studied according the guidelines of the International Organization for Standardization 10993 – Biological Evaluation of Medical Devices:

- o Primary skin irritation study.
- o Delayed dermal contact sensitization study.
- o Cytotoxicity study.

Note:

Although the information in this publication is believed to be accurate and reliable, the data shown are for guidance only. Orfit Industries gives no guarantees about the results and assumes no liability in connection with them. The properties reported here are intended primarily to facilitate comparison among Orfit products. Standard testing methods often allow alternative measuring methods. Therefore, data from other sheet manufacturers may not be directly comparable. For additional information, please contact Orfit Industries.





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