NANOR 1.2 mm (1/21”)

Thickness	mm (inches)	1.2 (1/21)
Perforation	% (type)	13 (micro)

Thermoforming conditions

Optimum activation temperature (in water bath)	°C (°F)	65 (149)
Activation time (in water bath)	minutes	2 – 3
Transparent when activated		yes / opaque
Working time	minutes	0 ½ – 1
Hardening time	minutes	1 – 1 ½
Time to completion	minutes	9 – 10
Resistance to stretch		low
Drape		high
Memory (after 200 % elongation)		moderate
Maximum elongation when activated	%	2400
Memory (after maximum elongation)		moderate
Sticks to itself when activated and wet		no
Sticks to itself when activated, after drying		no
Adhesion (velcro strip) using heat gun		n.a.

Mechanical properties at 21°C

Flexural modulus	MPa	750
Elastic modulus	MPa	410
Tensile strength	MPa	14.0
Strain at break	%	75

General properties

Density	g cm^{-3}	1.17
Hardness (shore D)		61
Surface feeling		smooth
Color		beige
Odor		none
Fatigue	cycles	+ 10 000
Biocompatible		yes

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TECHNICAL DATA SHEET

NANOR 1.6 mm (1/16”)

Thickness	mm (inches)	1.6 (1/16)
Perforation	% (type)	17 (micro)

Thermoforming conditions

Optimum activation temperature (in water bath)	°C (°F)	65 (149)
Activation time (in water bath)	minutes	3 – 4
Transparent when activated		yes / opaque
Working time	minutes	0 ½ – 1
Hardening time	minutes	1 ½ - 2
Time to completion	minutes	9 – 10
Resistance to stretch		low
Drape		high
Memory (after 200 % elongation)		moderate
Maximum elongation when activated	%	2400
Memory (after maximum elongation)		moderate
Sticks to itself when activated and wet		no
Sticks to itself when activated, after drying		no
Adhesion (velcro strip) using heat gun		n.a.

Mechanical properties at 21°C

Flexural modulus	MPa	750
Elastic modulus	MPa	410
Tensile strength	MPa	14.0
Strain at break	%	50

General properties

Density	g cm^{-3}	1.17
Hardness (shore D)		61
Surface feeling		smooth
Color		beige
Odor		none
Fatigue	cycles	+ 10 000
Biocompatible		yes

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TECHNICAL DATA SHEET

NANOR 2.0 mm (1/12”)

Thickness	mm (inches)	2.0 (1/12)
Perforation	% (type)	25 (micro+)

Thermoforming conditions

Optimum activation temperature (in water bath)	°C (°F)	65 (149)
Activation time (in water bath)	minutes	3 – 4
Transparent when activated		yes / opaque
Working time	minutes	0 ½ – 1
Hardening time	minutes	1 ½-2
Time to completion	minutes	8 – 9
Resistance to stretch		low
Drape		high
Memory (after 200 % elongation)		moderate
Maximum elongation when activated	%	1800
Memory (after maximum elongation)		moderate
Sticks to itself when activated and wet		no
Sticks to itself when activated, after drying		no
Adhesion (velcro strip) using heat gun		n.a.

Mechanical properties at 21°C

Flexural modulus	MPa	400
Elastic modulus	MPa	310
Tensile strength	MPa	8.85
Strain at break	%	25

General properties

Density	g cm^{-3}	1.17
Hardness (shore D)		61
Surface feeling		smooth
Color		beige
Odor		none
Fatigue	cycles	+ 10 000
Biocompatible		yes

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TECHNICAL DATA SHEET

NANOR 2.4 mm (3/32”)

Thickness	mm (inches)	2.4 (3/32)
Perforation	% (type)	25 (micro+)

Thermoforming conditions

Optimum activation temperature (in water bath)	°C (°F)	65 (149)
Activation time (in water bath)	minutes	3 – 4
Transparent when activated		yes / opaque
Working time	minutes	0 ½ - 1
Hardening time	minutes	2 ½ - 3
Time to completion	minutes	11 – 12
Resistance to stretch		low
Drape		high
Memory (after 200 % elongation)		moderate
Maximum elongation when activated	%	1700
Memory (after maximum elongation)		moderate
Sticks to itself when activated and wet		no
Sticks to itself when activated, after drying		no
Adhesion (velcro strip) using heat gun		n.a.

Mechanical properties at 21°C

Flexural modulus	MPa	400
Elastic modulus	MPa	310
Tensile strength	MPa	9.5
Strain at break	%	50

General properties

Density	g cm^{-3}	1.17
Hardness (shore D)		61
Surface feeling		smooth
Color		beige
Odor		none
Fatigue	cycles	+ 10 000
Biocompatible		yes

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 precut is hardened and can be removed from 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:

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

Note: