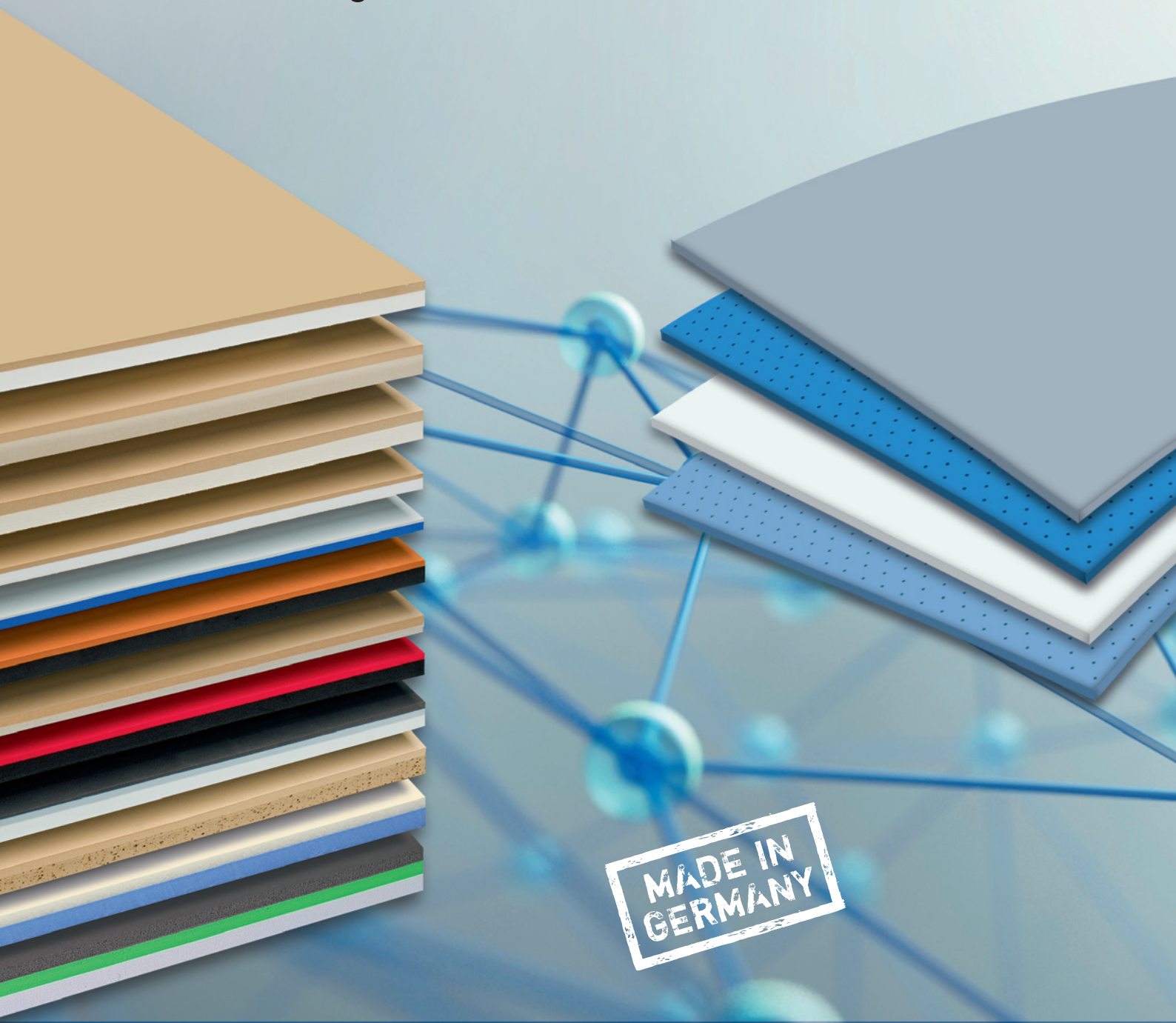
Lunatec combi
Lunatec fusion

for the efficient manufacturing
of foot beddings and insoles



EVA solutions for health and industry

www.nora-material.de | www.nora-material.com

nora®
by Interface®

Composite sheets

Our idea of combining typical material combinations for the manufacturing of foot beddings and insoles during the production process has changed daily work in orthopaedic shoe technology for the better over the past 20 years. The sandwich sheets made in Weinheim are the ideal basis for efficient manufacturing in workshops and industry.

The use of two- or three-layer **vulcanised EVA composite sheets** eliminates the need for bonding and the risks associated with it, such as material displacement, hardening due to adhesive, discoloration or blistering between the layers. **Lunatec combi** sheets offer lasting, reliable stability without bonding.

The advantages are clear:

- enormous savings on time and costs
- clean, fast and healthy friendly working
- no need to apply adhesive
- no discoloration or tangible hardening
- no contamination from glue
- no long drying and waiting times
- ready for use immediately after cooling down

nora® Lunatec combi 1 expanded EVA sheets, trimmed edges

The vulcanised combination of:

Format: approx. 925 x 580 mm
// 36.4" x 22.8"

nora® Lunalastik
permanently resilient cushioning properties

Hardness:
approx. 25 Shore A

Density:
approx. 0.23 g/cm³

Colour: 07 beige

Thickness: approx. 6 mm

nora® Lunasoft AL
stabilising properties

Hardness:
approx. 52 Shore A

Density:
approx. 0.26 g/cm³

Colour: 09 white

Thickness: approx. 8 mm

Intended applications:
Basis for orthopaedic foot beddings and insoles with permanently resilient and stabilising function for increased stress. Suitable for geriatric foot, diabetes, and rheumatism, but also suitable as basis for sports insoles.

nora® Lunatec combi 2 expanded EVA sheets, trimmed edges

The vulcanised combination of:

Format: approx. 880 x 600 mm
// 34.6" x 23.6"

nora® Lunairflex
bedding cushioning properties

Hardness:
approx. 22 Shore A

Density:
approx. 0.12 g/cm³

Colour: 07 beige

Thickness: approx. 6 mm

nora® Lunasoft SLW
permanently resilient cushioning properties

Hardness:
approx. 30 Shore A

Density:
approx. 0.20 g/cm³

Colour: 17 grey beige

Thickness: approx. 10 mm

Intended applications: Basis for orthopaedic foot beddings, in particular diabetes-adapted foot beddings with bedding and at the same time permanently resilient function. Suitable for moderate stress given sensitive feet (e.g. geriatric foot), rheumatism, and advanced-stage diabetes.

nora® Lunatec combi 3 expanded EVA sheets, trimmed edges

The vulcanised combination of:

Format: approx. 870 x 580 mm
// 34.3" x 22.8"

nora® Lunalastik
permanently resilient cushioning properties

Hardness:
approx. 25 Shore A

Density:
approx. 0.23 g/cm³

Colour:	**Thickness:**
07 beige	approx. 6 mm

nora® Lunasoft SLW
permanently resilient cushioning properties

Hardness:
approx. 30 Shore A

Density:
approx. 0.20 g/cm³

Colour:	**Thickness:**
19 stone	approx. 10 mm

Intended applications:
Basis for orthopaedic foot beddings, in particular diabetes-adapted foot beddings with permanently resilient function. Best suitable for medium stress for the management of geriatric foot, and advanced-stage diabetes and rheumatism.

nora® Lunatec combi 4 expanded EVA sheets, trimmed edges

The vulcanised combination of:

Format: approx. 870 x 540 mm
// 34.3" x 21.3"

nora® Lunairflex
bedding cushioning properties

Hardness:
approx. 22 Shore A

Density:
approx. 0.12 g/cm³

Colour:	**Thickness:**
07 beige	approx. 3 mm

nora® Lunalastik
permanently resilient cushioning properties

Hardness:
approx. 25 Shore A

Density:
approx. 0.23 g/cm³

Colour:	**Thickness:**
09 white	approx. 6 mm

Intended applications:
Basis for orthopaedic foot beddings, in particular diabetes-adapted foot beddings with bedding and at the same time permanently resilient function. Best suitable for increased stress for the management of geriatric foot, and advanced-stage diabetes and rheumatism. The combination with a stabilising **nora® Luna** product, e.g. **Lunasoft AL, Lunalight A** or **Lunacell** is recommended.

nora® Lunatec combi 5 expanded EVA sheets, trimmed edges

The vulcanised combination of:

Format: approx. 950 x 600 mm
// 37.4" x 23.6"

nora® Lunalastik
permanently resilient cushioning properties

Hardness:
approx. 25 Shore A

Density:
approx. 0.23 g/cm³

Colour:	**Thickness:**
60 bright grey	approx. 3 mm

nora® Lunasoft SLW
permanently resilient cushioning properties

Hardness:
approx. 30 Shore A

Density:
approx. 0.20 g/cm³

Colour:	**Thickness:**
111 royal blue	approx. 4 mm

Intended applications:
Basis for efficiently finished, thin, permanently resilient insoles, e.g. a long-soled insole with optimal soft bedding in the forefoot. Suitable for the cushioning of orthoses, prostheses, and soft sockets.

nora® Lunatec combi 6 expanded EVA sheets, trimmed edges

The vulcanised combination of:

Format: approx. 880 x 560 mm
// 34.6" x 22.0"

nora® Lunasoft SLW
permanently resilient cushioning properties

Hardness:
approx. 30 Shore A

Density:
approx. 0.20 g/cm³

Colour:	**Thickness:**
137 terra	approx. 4 mm

nora® Lunasoft AL
stabilising properties

Hardness:
approx. 52 Shore A

Density:
approx. 0.26 g/cm³

Colour:	**Thickness:**
81 black	approx. 10 mm

Intended applications: Basis for efficiently finished sporty and modern insoles or foot beddings, e.g. long-soled sports insoles.

Composite sheets

nora® Lunatec combi 7 expanded EVA sheets, trimmed edges

The vulcanised combination of:

approx. 7 mm

Format: approx. 1180 x 840 mm
// 46.5" x 33.1"

nora® Lunasoft SLW
permanently resilient cushioning properties

Hardness:
approx. 30 Shore A

Density:
approx. 0.20 g/cm³

Colour: 07 beige
Thickness: approx. 3 mm

nora® Lunasoft SL
stabilising properties

Hardness:
approx. 40 Shore A

Density:
approx. 0.20 g/cm³

Colour: 19 stone
Thickness: approx. 4 mm

Intended applications:
Ideal basis for the efficient manufacture of an insole, soft-wall funnel-shaped sleeve or a soft socket. In combination with other **nora® Luna** products, this material is the perfect basis for orthopaedic foot beddings for the management of geriatric feet, diabetes and rheumatism.

nora® Lunatec combi 8 expanded EVA sheets, trimmed edges

The vulcanised combination of:

approx 12 mm

Format: approx. 880 x 560 mm
// 34.6" x 22.0"

nora® Lunatec EP
permanently resilient cushioning properties

Hardness:
approx. 22 Shore A

Density:
approx. 0.20 g/cm³

Colour: 131 red
Thickness: approx. 4 mm

nora® Lunatec SE
stabilising properties

Hardness:
approx. 45 Shore A

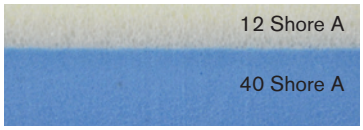
Density:
approx. 0.28 g/cm³

Colour: 81 black
Thickness: approx. 8 mm

Intended applications:
Basis for efficiently finished sporty and modern insoles or foot beddings with high restoration capability, e.g. long-soled sports insoles.

nora® Lunatec combi motion 1 expanded EVA sheets, trimmed edges

The vulcanised combination of:



approx. 16 mm

Format: approx. 1200 x 960 mm
// 47.1" x 37.8"

nora® Lunatec motion
bedding properties

Hardness:
approx. 12 Shore A

Density:
approx. 0.13 g/cm³

Colour: 06 silk
Thickness: approx. 6 mm

nora® Lunasoft SL
stabilising properties

Hardness:
approx. 40 Shore A

Density:
approx. 0.20 g/cm³

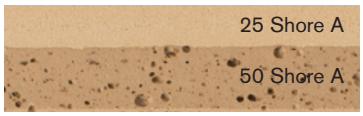
Colour: 27 light blue
Thickness: approx. 10 mm

The upper layer of **nora® Lunatec motion** is extremely soft, making it ideal especially as a bedding for people with foot pain and as an absorption of shearing forces caused by walking. A large part of the load of the musculoskeletal system is being removed, and therefore the pain. What must be highlighted here as well are its **excellent bedding and damping properties in the horizontal load plane.** The objective of treatment with **nora® Lunatec combi motion 1** may be, for instance, to minimise the shearing forces between the footbed and the sole, and in this manner alleviate the pain. The soft feel enables the patient to consciously place their feet, despite previous periods of pain.

Intended applications:
For insoles and damping inside a shoe; most of all for patients with painful foot or joint diseases like rheumatism or for sensitive diabetic feet. Useful in areas that are very pressure sensitive, to minimise pain through lesser shear forces.

nora® Lunatec combi cork 1 expanded EVA sheets, trimmed edges

The vulcanised combination of:



Format: approx. 1120 x 880 mm
// 44.1" x 34.6"

nora® Lunalastik
permanently resilient cushioning properties

Hardness:
approx. 25 Shore A

Density:
approx. 0.23 g/cm³

Colour:
07 beige

Thickness:
approx. 6 mm

nora® Lunatec cork H
stabilising properties

Hardness:
approx. 50 Shore A

Density:
approx. 0.35 g/cm³

Colour:
205 cork

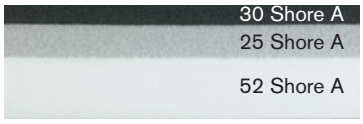
Thickness:
approx. 8 mm

nora® Lunatec combi cork 1 is a vulcanised composite sheet with a stabilising EVA layer containing a high cork fraction. This composite sheet is therefore the ideal basis for the production of durable insoles. In addition, the permanently resilient cushioning layer presents a roughened velvety surface ideal for attaching leather covers.

Intended applications:
Permanently resilient and stabilising basis for orthopaedic footbeds and supporting insoles, e.g. for counteracting abnormal strain on the musculoskeletal system from skew, flat, splay, or hollow feet. Depending on the difficulty and type of treatment, **nora® Lunatec combi cork 1** can be supplemented with additional solid, stabilising material, e.g. **Norit, Lunacell,** or **Lunalight.**

nora® Lunatec combi T1 expanded EVA sheets, trimmed edges

The vulcanised combination of:



Format: approx. 880 x 590 mm
// 34.6" x 23.2"

nora® Lunasoft SLW

Hardness:
approx. 30 Shore A

Density:
approx. 0.20 g/cm³

Colour:
80 anthracite

Thickness:
approx. 3 mm

nora® Lunasoft Z

Hardness:
approx. 25 Shore A

Density:
approx. 0.17 g/cm³

Colour:
307 medium grey

Thickness:
approx. 4 mm

nora® Lunasoft AL

Hardness:
approx. 52 Shore A

Density:
approx. 0.26 g/cm³

Colour:
09 white

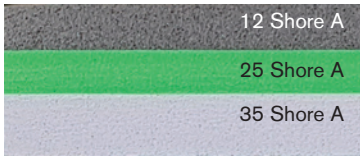
Thickness:
approx. 8 mm

The 3-layer composite sheet **nora® Lunatec combi T1** is a material which is above all specifically suitable for the treatment of rheumatics and clinical pictures with especially sensitive feet. The special feature of **nora® Lunatec combi T1** is the softness of its center layer. Embedded in two harder layers, it minimises the occurring shear forces with every foot strike which leads to ease of the musculoskeletal system. Thanks to the special structure of this composite sheet, it offers **excellent cushioning and damping properties in the horizontal load plane.** This effect is the result of the layers being vulcanised. The materials with different hardnesses were fused in a smooth transition and there are no bonded layers which could interfere negatively with this function.

Intended applications:
Orthopaedic foot beddings with excellent cushioning and damping properties in the horizontal load plane, specifically for rheumatics and clinical pictures with sensitive feet. Depending on the difficulty and the type of the treatment, **nora® Lunatec combi T1** can be supplemented by a further solid stabilising material such as e.g. **Norit, Lunacell,** or **Lunalight.**

nora® Lunatec combi motion T2 expanded EVA sheets, trimmed edges

The vulcanised combination of:



Format: approx. 1000 x 625 mm
// 39.4" x 31.5"

nora® Lunatec motion

Hardness:
approx. 12 Shore A

Density:
approx. 0.13 g/cm³

Colour:
56 stone grey

Thickness:
approx. 7 mm

nora® Lunasoft Z

Hardness:
approx. 25 Shore A

Density:
approx. 0.16 g/cm³

Colour:
345 green

Thickness:
approx. 5 mm

nora® Lunatec CAD 35

Hardness:
approx. 35 Shore A

Density:
approx. 0.20 g/cm³

Colour:
60 bright grey

Thickness:
approx. 8 mm

The 3-layer EVA composite sheet **nora® Lunatec combi motion T2** is a material that is especially suited for the treatment of **painful and pressure sensitive feet.** The material composition combines outstanding functionality, characteristic softness and low weight.

The top layer made from **Lunatec motion** absorbs shear forces caused by walking and has **extremely soft bedding properties.** The excellent bedding and absorption properties, also in the horizontal load plane, ensure **optimum pressure distribution** and concentrated pressure relief. In this way, especially feet with painful areas can be treated in the best possible way.

With their **permanently elastic** and **stabilising** properties, the two lower layers create the ideal structure for supporting sensitive feet. The layers, which have different hardnesses, are fused with each other in a smooth transition.

Intended applications:
Because of the total thickness of approx. 20 mm, **nora® Lunatec combi motion T2** is ideal for the manufacturing of thicker orthopaedic foot beddings, soft bedding insoles, diabetes-adapted foot beddings or beddings for orthopaedic shoes. The foot beddings can be manufactured in a deep-drawing process, saving time and money, without the use of adhesives.

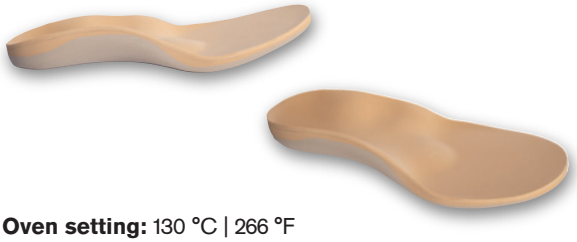
Lunatec combi 2

Diabetes-adapted foot bedding

Diagnosis: Diabetes mellitus, polyneuropathy, angiopathy
Patient data: Body weight approx. 70 kg

Materials used:

Norit or Norit L	3 mm (placeholder for covering)
Lunatec combi 2	16 mm (basis)
Lunairmed	3 mm (covering)



Oven setting: 130 °C | 266 °F

Processing instructions (from the foot down)

1. **Heat Norit or Norit L in the oven**
   and form it as a place holder on the last in the vacuum deep drawing press to have enough space for the top layer which will be bonded later.

   Heating time: approx. 2 – 3 minutes

2. **Heat Lunatec combi 2 in the oven**
   and mold it over the placeholder in the vacuum deep drawing machine.

   Heating time: approx. 9 minutes
   Cooling time: approx. 18 minutes

3. **Grind the foot bedding into shape.**

4. **Add cold Lunairmed as top layer.**
   By bonding the cold Lunairmed as top layer, the softness remains the same.

Tip: A placeholder made of **Norit** or **Norit L** can remain on the last for the next treatment or be used for other lasts, as the material can be reshaped multiple times by heating.

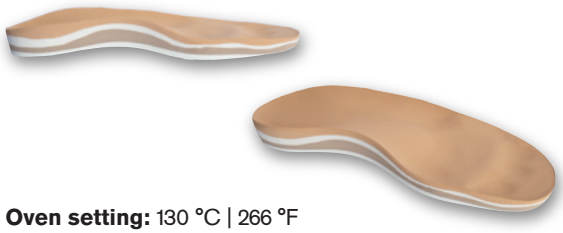
Lunatec combi 4

Diabetes-adapted foot bedding

Diagnosis: Diabetes mellitus, polyneuropathy, angiopathy
Patient data: Body weight approx. 110 kg

Materials used:

Lunatec combi 4	9 mm (basis)
Lunasoft SLW	8 mm (cushioning layer)
Lunasoft AL	8 mm (stabilisation)



Oven setting: 130 °C | 266 °F

Processing instructions (from the foot down)

1. **Heat Lunatec combi 4 in the oven**
   and mold it over the last in the vacuum deep drawing press.

   Heating time: approx. 5 minutes
   Cooling time: approx. 10 minutes

Tip: Place spacers under the flat last for a tighter fit.

2. **Grind the foot bedding roughly into shape if necessary.**

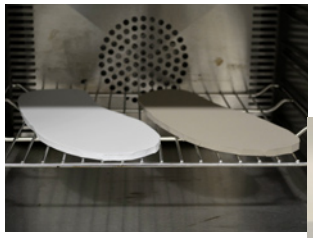
3. Apply adhesive to **Lunatec combi 4, Lunasoft SLW** (both sides), and **Lunasoft AL** and allow to air dry.

4. **Heat both materials in oven**
   First place **Lunasoft AL** in the oven and **Lunasoft SLW** one minute later. Then place them one after the other on **Lunatec combi 4** and deep-draw in one step. Allow to cool thoroughly.

   Heating time:
   Lunasoft AL approx. 4 minutes
   Lunasoft SLW approx. 3 minutes

   Cooling time: approx. 8 – 10 minutes

5. **Grind the foot bedding on side and plantar into shape.**



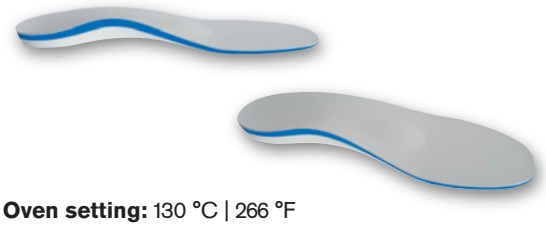
Lunatec combi 5

Long-soled insole

Diagnosis: Flat/spread foot

Materials used:

Lunatec combi 5	7 mm (basis)
Lunasoft AL	8 mm (stabilisation)



Oven setting: 130 °C | 266 °F

Processing instructions (from the foot down)

1. **Apply adhesive to Lunatec combi 5, Lunasoft AL** and allow to air dry.

2. **Heat both materials in oven**
   First place **Lunasoft AL** in the oven and **Lunatec combi 5** one minute later.

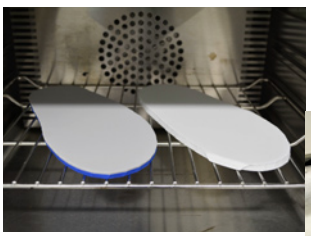
   Heating time:

Lunasoft AL	approx. 4 minutes
Lunatec combi 5	approx. 3 minutes

3. Place **Lunatec combi 5** on the last, position **Lunasoft AL** on top, and thermoform in one step, applying sufficient pressure. Allow to cool thoroughly so that the insole retains its shape.

   Cooling time: approx. 8 – 10 minutes

4. **Grind the insole into shape.**



Lunatec combi motion T2

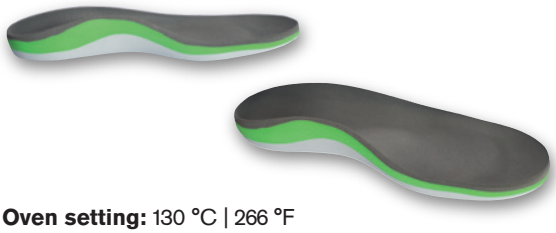
Soft bedding insole for diabetic or painful feet

Diagnosis: Diabetes mellitus, polyneuropathy, angiopathy

Patient data: Body weight approx. 100 kg

Materials used:

Lunatec combi motion T2	20 mm



Oven setting: 130 °C | 266 °F

Processing instructions (from the foot down)

1. **Heat Lunatec combi motion T2 in the oven**
   and mold it over the last in vacuum deep drawing machine. Allow to cool thoroughly so that the foot bedding retains its shape.

Heating time:	approx. 9 minutes
Cooling time:	approx. 8 – 10 minutes

Tip: As the top layer serves as a cover, we recommend using a sample shoe foil to ensure a smooth surface if the last is uneven.

2. **Grind the foot bedding on side and plantar into shape.**

Making insoles and foot beddings without adhesive:

with nora® Lunatec fusion and nora® Lunatec combi

Our work focuses on developing materials with special properties and unique solutions, which means that insoles and foot beddings can now be manufactured from a wide range of our EVA materials without the use of any adhesives.

Whether with **Lunatec combi** multi-layer composite sheets or the innovative, self-bonding **Lunatec fusion** EVA materials, processing without adhesives not only saves time and materials, but is also particularly clean, healthy, and environmentally friendly.

Comprehensively certified

As a manufacturer in Germany, we assume particular responsibility for consistent quality, innovative product developments, practical diversity and the **highest possible reliability and safety.** Our EVA materials are produced exclusively at our site in Weinheim, Baden-Württemberg, and they are:

- suitable for use in **Class 1 medical products**
- **free of constituents posing toxicological and carcinogenic risks as specified in EU Regulation 2017/745**
- **tested for harmful substances** by the PFI in Pirmasens
- tested for **dermatological skin compatibility** by the Dermatest Institute
- **free from latex** and phthalates
- made solely from **vegan** constituents
- completely & hygienically **washable and disinfectable**

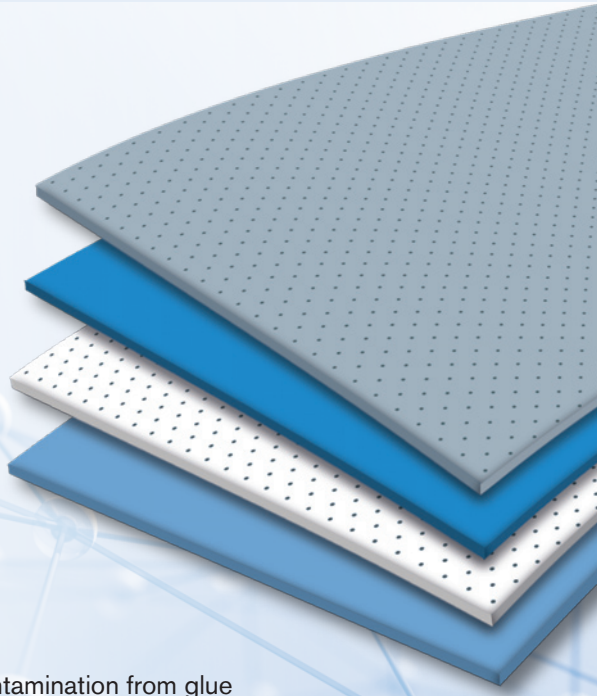
The following recommendation was developed in collaboration with the Baden-Württemberg Guild of Orthopaedic Shoe Technology.

- For patients with diabetes mellitus, polyneuropathy, angiopathy, and a body weight of **approx. 70 kg,** we recommend using **Lunatec combi 2** with a placeholder and a subsequently applied **Lunairmed** top layer.
- For patients with diabetes mellitus, polyneuropathy, angiopathy, and a body weight of **approx. 90 kg,** we recommend using **Lunatec combi 3** with a placeholder and a subsequently applied **Lunairmed** top layer.
- For patients with diabetes mellitus, polyneuropathy, angiopathy, and a body weight of **approx. 110 kg,** we recommend using **Lunatec combi 4, Lunasoft SLW** in 8 mm, and **Lunasoft AL** in 8 mm on the bottom of the insole.

For this reason, as a manufacturer, we do not provide general weight recommendations for the use of our materials: The weight specification is only a guideline, as the choice of material depends on several factors: Patient weight, activity level, wearing time, medical disease, or foot deformities with increased or minimized contact surface.

nora® Lunatec fusion

bonds directly without any adhesives ...



Lunatec fusion is a global innovation in expanded EVA materials which ensure a reliable, permanent bond without the additional use of adhesive. This allows fast, clean, environmentally friendly and healthy work at the highest level of quality that's made in Germany.

With **Lunatec fusion,** orthopaedic insoles and foot beddings can be made entirely without adhesive. These unique new materials bond directly with each other through thermoplastic moulding solely as a result of heat, time and pressure and fuse to create a permanent bond. The materials bond directly, without any glue or adhesive lamination.

The advantages are clear:

- enormous savings on time and costs
- clean, fast and healthy friendly working
- no need to apply adhesive
- no discolouration or tangible hardening
- no contamination from glue
- no long drying and waiting times
- ready for use immediately after cooling down

Application example soft cushioning insole

Materials used:
Lunatec fusion 30, smooth, 6 mm (forefoot cushioning)
Lunatec fusion 40, smooth, 8 mm (stabilisation in rearfoot area)
Lunatec fusion 40, perforated, 8 mm (stabilisation with high arch)

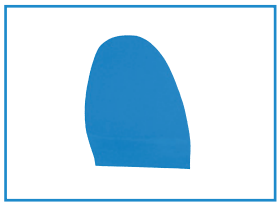
1. Grind and heat
Grind **Lunatec fusion 30** well in contact area and grind **Lunatec fusion 40** (smooth) in wedge shape to avoid edges and then heat in oven at 130 °C // 266 °F.

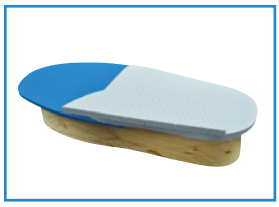
Heating times:
8 mm = approx. 4 minutes
(slightly less with perforated material)
6 mm = approx. 3 minutes

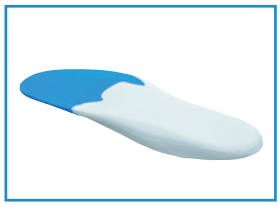
2. Deep draw and allow to cool
Place all materials correctly on last, deep draw and make sure that sufficient pressure is applied to the drawing bladder. Press material firmly during the deep drawing process to prevent air insertions.
Cooling time: approx. 8 minutes

3. Grinding
Grind insoles into shape.

Tip: With this type of insole manufacture, it is important to cleanly sand the contact surfaces of the half sole wedge-shaped to avoid edges and ensure ideal bonding.



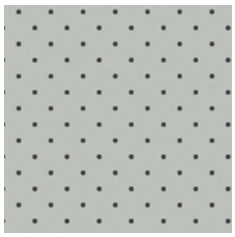




EVA expanded sheets, self-bonding

nora® Lunatec fusion 20 expanded EVA sheets, smooth and perforated, trimmed edges

60 bright grey
smooth



60 bright grey
perforated

Hardness:
approx. 20 Shore A

Density:
approx. 0.12 g/cm³

Format:
approx. 1050 x 760 mm // 41.3" x 29.9"

▼ SMOOTH

Colour:	Thicknesses:
60 bright grey	2 | 3 | 4 mm

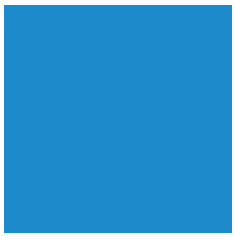
▼ PERFORATED

Colour:	Thickness:
60 bright grey	4 mm

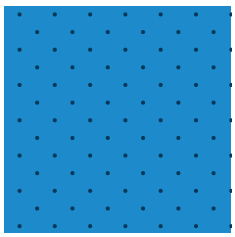
Properties:
Bonding without adhesive within the **Lunatec fusion** range; lightweight, soft and elastic, low density, good elastic recovery, comfortable walking.

Processing notes:
Roughen materials, thermoformable at approx. 130 °C // 266 °F and can be processed in sandwich design without adhesive if sufficient pressure is applied.

nora® Lunatec fusion 30 expanded EVA sheets, smooth and perforated, trimmed edges



378 blue
smooth



378 blue
perforated

Hardness:
approx. 30 Shore A

Density:
approx. 0.15 g/cm³

Format:
approx. 1000 x 700 mm // 39.4" x 27.5"

▼ SMOOTH

Colour:	Thicknesses:
378 blue	2 | 3 | 4 | 6 mm

▼ PERFORATED

Colour:	Thickness:
378 blue	4 mm

Properties:
Bonding without adhesive within the **Lunatec fusion** range; lightweight, dimensionally stable, flexible and elastic, good elastic recovery.

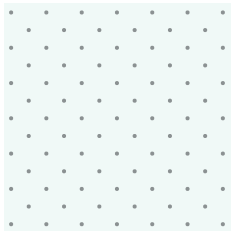
Processing notes:
Roughen materials, thermoformable at approx. 130 °C // 266 °F and can be processed in sandwich design without adhesive if sufficient pressure is applied.

Because vulcanised EVA sheets basically consist of hygienic closed cells, the process works best when a **perforated material** is used, and the trimmed materials are **roughened** by sanding before processing. This enlarges the surface to give full-surface bonding. This is a normal step even in traditional insole manufacture, intended to achieve better bonding and avoid air inserts.

In addition to various material layers, other **material blanks** (e.g. for reinforcing in the arch) can be positioned flexibly and bonded to each other in a single deep drawing process.

nora® Lunatec fusion 40 expanded EVA sheets, smooth and perforated, trimmed edges

09 white
smooth



09 white
perforated

Hardness:
approx. 40 Shore A

Density:
approx. 0.20 g/cm³

Format:
approx. 1040 x 625 mm // 40.9" x 24.6"

SMOOTH

Colour:	Thicknesses:
09 white	4 | 8 | 12 mm

PERFORATED

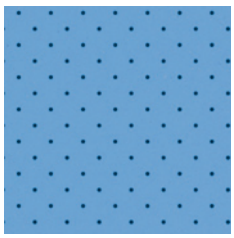
Colour:	Thicknesses:
09 white	4 | 8 mm

Properties:
Bonding without adhesive within the **Lunatec fusion** range; lightweight, dimensionally stable and elastic, good elastic recovery, comfortable walking.

Processing notes:
Roughen materials, thermoformable at approx. 130 °C // 266 °F and can be processed in sandwich design without adhesive if sufficient pressure is applied.

nora® Lunatec fusion 50 expanded EVA sheets, smooth and perforated, trimmed edges

27 light blue
smooth



27 light blue
perforated

Hardness:
approx. 50 Shore A

Density:
approx. 0.30 g/cm³

Format:
approx. 1020 x 675 mm // 40.2" x 26.6"

SMOOTH

Colour:	Thicknesses:
27 light blue	8 | 12 mm

PERFORATED

Colour:	Thicknesses:
27 light blue	4 | 8 mm

Properties:
Bonding without adhesive within the **Lunatec fusion** range; dimensionally stable and elastic, good elastic recovery.

Processing notes:
Roughen materials, thermoformable at approx. 130 °C // 266 °F and can be processed in sandwich design without adhesive if sufficient pressure is applied.

The heated materials bond together permanently under pressure during the cooling phase. Once the materials have bonded with each other, the material is more likely to break if an attempt is made to separate them, rather than the cooled layers coming apart. This has been proved by testing the peel resistance according to DIN EN 1392 (Testing of bond strength of adhesives). This means that the bond created is actually stronger than the material itself.

Lunatec fusion materials were developed for particularly healthy and environmentally friendly working **without the use of any adhesive at all.** However, like all other EVA materials, they can also be used with adhesive.

Warming and cooling times

Setting of the oven 130 °C // 266 °F
Rule of thumb: Warming time x factor 2 = optimum cooling

Lunatec combi	Heating time	Cooling time
Lunatec combi 1	6 min.	12 min.
Lunatec combi 2	9 min.	18 min.
Lunatec combi 3	9 min.	18 min.
Lunatec combi 4	5 min.	10 min.
Lunatec combi 5	3 min.	6 min.
Lunatec combi 6	6 min.	12 min.
Lunatec combi 7	5 min.	10 min.
Lunatec combi 8	6 min.	12 min.
Lunatec combi cork 1	5 min.	10 min.
Lunatec combi motion 1	8 min.	16 min.
Lunatec combi T1	8 min.	16 min.
Lunatec combi motion T2	9 min.	18 min.

Lunatec fusion	Thickness	Heating time	Cooling time
20	2 mm	30 sec.	1 min.
	3 mm	45 sec.	1,5 min.
	4 mm	1,5 min.	3 min.
30	2 mm	45 sec.	1,5 min.
	3 mm	1 min.	2 min.
40	4 mm	2 min.	4 min.
	6 mm	3 min.	6 min.
	8 mm	4 min.	8 min.
	12 mm	6 min.	12 min.
50	8 mm	4,5 min.	9 min.
	12 mm	7 min.	14 min.

The times given here are proven reference values based on a constant temperature of 130 °C // 266° F. These times can deviate dependent upon the oven, temperature precision, how often the door is opened and personal experiences.

Processing instructions for a reliable bonding:

- **roughen** the materials used
- use **a perforated** material
- make sure of **sufficient pressure** of the drawing bladder

With **perforated materials,** the heating time can be shortened by about a third as the heat spreads through the material faster. For the optimal cooling time, please consider the **total thickness** of the materials used.

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YouTube

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