

An excellent composition:

**Composite sheet
nora[®] Lunatec
combi**

for the efficient manufacture
of foot beddings and inserts

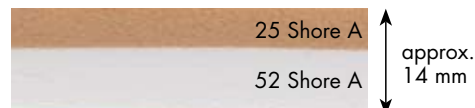
nora[®]

Product presentation

Lunatec combi 1-4

nora® Lunatec combi 1

The vulcanised combination of:



Format: approx. 925 x 580 mm

nora® Lunalastik

EVA expanded sheets

Thickness: approx. 6 mm
Hardness: approx. 25 Shore A
Density: approx. 0.23 g/cm³
Colour: 07 flesh colour

permanently resilient cushioning properties

nora® Lunasoft AL

EVA expanded sheets

Thickness: approx. 8 mm
Hardness: approx. 52 Shore A
Density: approx. 0.26 g/cm³
Colour: 09 white

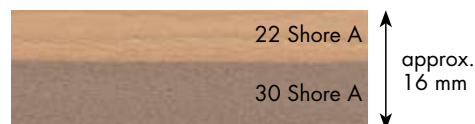
stabilising properties

Areas of application:

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

nora® Lunatec combi 2

The vulcanised combination of:



Format: approx. 880 x 600 mm

nora® Lunairflex

EVA expanded sheets

Thickness: approx. 6 mm
Hardness: approx. 22 Shore A
Density: approx. 0.12 g/cm³
Colour: 07 flesh colour

bedding cushioning properties

nora® Lunasoft SLW

EVA expanded sheets

Thickness: approx. 10 mm
Hardness: approx. 30 Shore A
Density: approx. 0.20 g/cm³
Colour: 17 grey beige

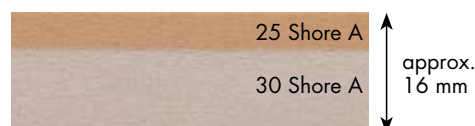
permanently resilient cushioning properties

Areas of application:

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

The vulcanised combination of:



Format: approx. 870 x 580 mm

nora® Lunalastik

EVA expanded sheets

Thickness: approx. 6 mm
Hardness: approx. 25 Shore A
Density: approx. 0.23 g/cm³
Colour: 07 flesh colour

permanently resilient cushioning properties

nora® Lunasoft SLW

EVA expanded sheets

Thickness: approx. 10 mm
Hardness: approx. 30 Shore A
Density: approx. 0.20 g/cm³
Colour: 19 stone

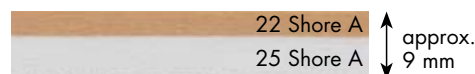
permanently resilient cushioning properties

Areas of application:

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

The vulcanised combination of:



Format: approx. 870 x 580 mm

nora® Lunairflex

EVA expanded sheets

Thickness: approx. 3 mm
Hardness: approx. 22 Shore A
Density: approx. 0.12 g/cm³
Colour: 07 flesh colour

bedding cushioning properties

nora® Lunalastik

EVA expanded sheets

Thickness: approx. 6 mm
Hardness: approx. 25 Shore A
Density: approx. 0.23 g/cm³
Colour: 09 white

permanently resilient cushioning properties

Areas of application:

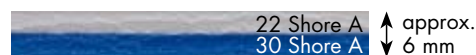
basis for orthopaedic foot beddings, in particular diabetes-adapted foot beddings with bedding and at the same time permanently resilient function. Best suitable for increased stress for the management of geriatric foot, and advanced-stage diabetes and rheumatism. The combination with a stabilising nora®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

Product presentation

Lunatec combi 5–6 and SK 1

nora® Lunatec combi 5

The vulcanised combination of:



Format: approx. 850 x 590 mm

nora® Lunairflex

EVA expanded sheets

Thickness: approx. 3 mm
Hardness: approx. 22 Shore A
Density: approx. 0.12 g/cm³
Colour: 60 bright grey

bedding cushioning properties

nora® Lunasoft SLW

EVA expanded sheets

Thickness: approx. 3 mm
Hardness: approx. 30 Shore A
Density: approx. 0.20 g/cm³
Colour: 111 royal blue

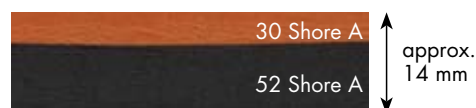
permanently resilient cushioning properties

Areas of application:

basis for efficiently finished, thin, bedding inserts, e.g. a long-soled insert with optimal soft bedding in the forefoot. Suitable for the cushioning of orthoses, prostheses, and soft sockets.

nora® Lunatec combi 6

The vulcanised combination of:



Format: approx. 880 x 560 mm

nora® Lunasoft SLW

EVA expanded sheets

Thickness: approx. 4 mm
Hardness: approx. 30 Shore A
Density: approx. 0.20 g/cm³
Colour: 137 terra

permanently resilient cushioning properties

nora® Lunasoft AL

EVA expanded sheets

Thickness: approx. 10 mm
Hardness: approx. 52 Shore A
Density: approx. 0.26 g/cm³
Colour: 81 black

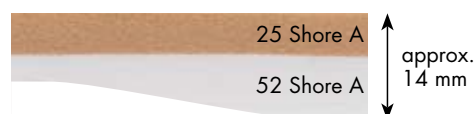
stabilising properties

Areas of application:

basis for efficiently finished sporty and modern inserts or footbeddings, e.g. long-soled sports inserts.

nora® Lunatec combi SK 1

The vulcanised combination of:



Format: approx. 850 x 270 mm (size 1/35–39)
 approx. 850 x 300 mm (size 2/40–44)
 approx. 850 x 340 mm (size 3/45–49)
 approx. 850 x 380 mm (size 4/>49)

nora® Lunalastik

EVA expanded sheets

Thickness: approx. 6 mm
Hardness: approx. 25 Shore A
Density: approx. 0.23 g/cm³
Colour: 07 flesh colour

permanently resilient cushioning properties

nora® Lunasoft AL

EVA expanded sheets

Thickness: approx. 2-8 mm
Hardness: approx. 52 Shore A
Density: approx. 0.26 g/cm³
Colour: 09 white

stabilising properties

Thanks to its wedge-like shape, **nora® Lunatec combi SK 1** is the ideal basis for the efficient manufacture of inserts in only a few steps. In combination with other **nora® Luna** products, this wedge is the perfect basis for orthopaedic foot beddings.

Areas of application:

the composite wedge **nora® Lunatec combi SK 1** is the ideal combination for the manufacture of individual long-soled sports inserts and long-soled inserts for flat splay feet. In combination with other Luna products, **Lunatec combi SK 1** is the optimal basis for orthopaedic foot beddings and inserts for geriatric feet and rheumatism.

Examples of practice for applications

nora® Lunatec combi 1

Foot bedding for rheumatics

Diagnosis: Rheumatoid arthritis
Patient data: body weight approx. 100 kg

Materials used:

nora® Norit
3 mm (place holder for covering)
nora® Lunatec combi 1
14 mm (basis)
nora® Lunacell
8 mm (stabilisation)
nora® Lunairmed
3 mm (covering)



Setting of oven: 130°-150°C

Hint: The oven should have a temperature of 130°-150°C for the entire material to be heated up to 120°-130°C.

Construction (from foot to bottom)

1. Place holder

Recommendation:
Form **nora® Norit 3** mm on the last (serves as place holder for covering to be inserted later)
Heating: approx. 2 min.



2. Processing of

nora® Lunatec combi 1
Heating: approx. 6 min.
Form **nora® Lunatec combi 1** directly on the place holder (do not bond).



3. Cooling phase

Rule of thumb:
„Heating time x factor 2“.
Cooling: approx. 12 min.

Hint: in case of insufficient cooling, formed materials may come off the last again.

4. Shape grinding / stabilising layer

After shape grinding, apply adhesive (on polychloroprene basis) to **nora® Lunatec combi 1** and **nora® Lunacell** and leave to air. Heat, form, and let cool down **nora® Lunacell**. Subsequently grind to shape.

Heating: approx. 4 min.
Cooling: approx. 8 min.

5. Covering

Bonding (adhesive on polychloroprene basis) of the covering **nora® Lunairmed** WITHOUT activation.

nora® Lunatec combi 2

Diabetes-adapted foot bedding

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

Materials used:

nora® Norit
3 mm (place holder for covering)
nora® Lunatec combi 2
16 mm (basis)
nora® Lunairmed
3 mm (covering)



Setting of oven: 130°-150°C

Construction (from foot to bottom)

1. Place holder

See application example **nora® Lunatec combi 1**.

2. Processing of

nora® Lunatec combi 2
Heating: approx. 11 min.
Form **nora® Lunatec combi 2** directly on the place holder (do not bond).



3. Cooling phase

Cooling: approx. 22 min.

Hint: The cooling may be accelerated by applying a humid cloth.

4. Shape grinding

Grind to shape after cooling down.

Recommendation: A minimum thickness of approx. 7 mm in the forefoot should be observed such that a total thickness of approx. 10 mm is maintained after bonding of the covering.

5. Covering

Cold-bond **nora® Lunairmed** as covering (on polychloroprene basis).

Hint: “Cold-bonding” of the covering guarantees that the Shore hardness is maintained. An activation would result in an increase in Shore hardness.



nora® Lunatec combi 3

Diabetes-adapted foot bedding

Diagnosis: Diabetes mellitus, polyneuropathy, angiopathy
Patient data: body weight approx. 90 kg

Materials used:

nora® Norit

3 mm (place holder for covering)

nora® Lunatec combi 3

16 mm (basis)

nora® Lunairmed

3 mm (covering)



Setting of oven: 130°–150°C

Construction (from foot to bottom)

1. Place holder

See application example **nora® Lunatec combi 1** and **2**.

Hint: The smooth surface of **nora® Norit** hides inequalities of the last.

2. Processing of nora® Lunatec combi 3

Heating: approx. 10 min.

Form **nora® Lunatec combi 3** directly on the place holder (do not bond).

3. Cooling phase

Cooling: approx. 20 min.

4. Shape grinding

Grind to shape after cooling down.

Recommendation: A minimum thickness of approx. 7 mm in the forefoot should be observed such that a total thickness of approx. 10 mm is maintained after bonding of the covering.



5. Covering

Cold-bond **nora® Lunairmed** as covering (on polychloroprene basis).

Hint: By a short activation of the surface (approx. 20 seconds), a thin vulcanisation skin forms on the surface. This surface is smooth and facilitates better slipping on of the shoe for your patient.



nora® Lunatec combi 4

Diabetes-adapted foot bedding

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

Materials used:

nora® Lunatec combi 4

9 mm (basis)

nora® Lunasoft SLW

8 mm (cushioning layer)

nora® Lunasoft AL

8 mm (stabilisation)



Setting of oven: 130°–150°C

Construction (from foot to bottom)

1. Processing of nora® Lunatec combi 4

Heating: approx. 5 min.

Form **nora® Lunatec combi 4** directly on the last (no place holder). The upper layer of **nora® Lunatec combi 4** made of **nora® Lunairflex** serves as covering.

Hint: We recommend to use a specimen shoe sheeting to achieve a smoother surface.

2. Cooling phase

Cooling: approx. 10 min.

3. Shape grinding

Grind to shape after cooling down.

4. Cushioning layer

After shape grinding, apply adhesive (on polychloroprene basis) to **nora® Lunatec combi 4** and **nora® Lunasoft SLW** and leave to air. Heat, form, and let cool down **nora® Lunasoft SLW**.

Heating: approx. 4 min.

Cooling: approx. 8 min.



5. Stabilising layer

Apply adhesive (on polychloroprene basis) to **nora® Lunasoft SLW** and **nora® Lunasoft AL** and leave to air.

Heat, form and let cool down **nora® Lunasoft AL**.

Heating: approx. 4 min.

Cooling: approx. 8 min.

6. Shape grinding

Grind to shape after cooling down.

Recommendation: in order to compensate for the longitudinal arch, 8 mm are required.

nora® Lunasoft AL is grinded significantly thinner in the areas of the forefoot and the heel.



nora® Lunatec combi 5

Long-soled insert

Diagnosis: Flat/splay foot
Patient data: body weight approx. 90 kg

Materials used:
nora® Lunatec combi 5
6 mm (basis)
nora® Lunacell A
3 mm (stabilisation)
nora® Lunasoft SLW
10 mm (cushioning)



Setting of oven: 130°–150°C

Construction (from foot to bottom)

1. Processing of nora® Lunatec combi 5

Apply adhesive on polychloroprene basis to the contact areas of **nora® Lunatec combi 5** (backfoot to pad).
Coating of **nora® Lunacell** 3 mm (prior marking facilitates fixing and coating).

Airing: approx. 2 min.

Activation of **nora® Lunatec combi 5** in a closed heat source.
After 1 ½ minutes, place **nora® Lunacell** 3 mm again in the oven for a further 2 minutes for activation.



Total activation time:
nora® Lunatec combi 5 = 3 ½ minutes
nora® Lunacell = 2 minutes
Form both materials in one process step.

2. Cooling phase
Cooling: approx. 11 min.

3. Processing of the cushioning layer

Coating of **nora® Lunasoft SLW** 10 mm with adhesive on polychloroprene basis.

Airing: approx. 2 min.
Activation of **nora® Lunasoft SLW**.
Heating: approx. 5 ½ minutes
Forming and cooling in Vakutherm.
Cooling: approx. 11 min.

4. Shape grinding
Grind to shape after cooling down.



nora® Lunatec combi 6

Long-soled sport insert with shock absorber

Diagnosis: Flat/splay foot
Patient data: body weight approx. 80 kg

Materials used:
nora® Lunatec combi 6
14 mm (basis)
nora® Supersorb
2 mm (shock-absorber)



Setting of oven: 130°–150°C

Construction (from foot to bottom)

1. Processing of nora® Lunatec combi 6

Activation of **nora® Lunatec combi 6** in a closed heat source.
Heating: approx. 6 min.
Forming of **nora® Lunatec combi 6**.

2. Cooling phase
Cooling: approx. 12 min.

3. Shape grinding

Grind to shape the insert at the bottom and sides. Marking of a "working line" for the area where **nora® Supersorb** is to be inserted later. Grind **nora® Lunatec combi 6** at the bottom to integrate **nora® Supersorb**.



4. Processing of the shock-absorber
Cutting and fitting of **nora® Supersorb**.

Hint: When cutting, leave a tolerance of approx. 2 mm on the side. **nora® Supersorb** should be smaller than the inside and not be flush at the sides. Only by this will the visco-elastic effect be obtained 100%.



Apply adhesive on polychloroprene basis to the contact areas of **nora® Lunatec combi 6** and **nora® Supersorb**.
Hint: Gluing at the fixing point is sufficient. Do not glue the entire surface of **nora® Supersorb** because this will limit the visco-elastic properties.

nora® Lunatec combi SK 1

Long-sole insert

Diagnosis: Flat/splay foot
Patient data: body weight approx. 90 kg

Materials used:
nora® Lunatec combi SK 1
 8/14 mm (basis)
nora® Lunasoft SL trendline
 2 mm (covering)



Setting of oven: 130°–150°C

Construction (from foot to bottom)

1. Processing of nora® Lunatec combi SK 1

Activation of **nora® Lunatec combi SK 1** in a closed heat source.

Heating: approx. 5 min.
 Place on the last and form in Vaku-therm.

Hint: Forming in the retrocapital areas is facilitated by applying a pad.



2. Cooling phase
Cooling: approx. 10 min.

3. Shape grinding
 Grind to shape the insert at the bottom and sides. Grinding is minimised thanks to the wedge-like shape in the forefoot.



Advantages:
 less material usage = cost savings
 less grinding = time savings + less waste

4. Covering
 Coating and leaving to air of the formed insert **nora® Lunatec combi SK 1** and the covering **nora® Lunasoft SL trendline**. Fixing of the covering in the toe area. Briefly activate **nora® Lunasoft SL trendline** and bond. Cut to size the covering and grind to shape.

Heating and cooling time Lunatec combi 1–6 and SK 1

	Heating time (min)	Cooling time (min)
Lunatec combi 1	6	12
Lunatec combi 2	11	22
Lunatec combi 3	10	20
Lunatec combi 4	5	10
Lunatec combi 5	3,5	7
Lunatec combi 6	6	12
Lunatec combi SK 1	5	10

Hints and tricks

Setting of oven: 130°–150°C

Background: with this setting, the material reaches an optimum temperature of 120°–130°C throughout. Please observe the different activation times!

Rule of thumb: Activation time x factor 2 = optimum cooling time. The cooling can be accelerated by applying a humid, cold cloth or by using a vacuum press with a cooling system.



nora® Lunatec combi sheets are vulcanised compositions of proven nora® qualities, made in Germany.

nora® Lunatec combi is an innovative product development in composite sheets: two different materials are vulcanized together already during the manufacturing process and guarantee secure strength, without any gluing.

nora® Lunatec combi is the ideal basis for the manufacture of foot beddings and inserts.

These are your benefits:

- No gluing required.
- No displacement of the different materials when processing.
- A higher retention of volume because one deep drawing operation becomes superfluous.
- The composite sheets are thermoformable between 120°C–130°C.

Further advantages as compared to glued products:

- No bubble formation at the joints and no hardening because of the adhesive film.

In orthopaedics shoe engineering, different material combinations are used depending on diagnosis, symptoms, and weight of the patients. We have already “bonded” for you six different material combinations. The combinations consist of materials with bedding, permanently resilient, or stabilising functions.

And **you** will decide which combination is suitable for the individual patient and which materials are to be added to guarantee an optimum management of the patient.

Benefits thanks to an efficient insert manufacture and time and cost savings.

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