

FIRST EDITION

STEP BY STEP

nora® magazine

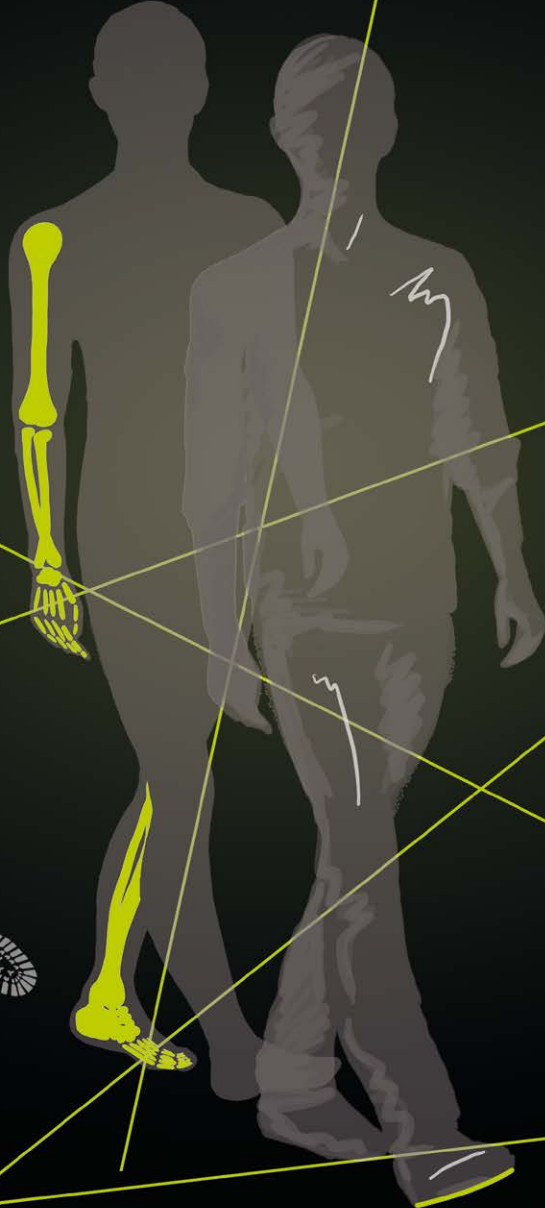
New product:

**Lunatec
motion**

Aid campaign

**Shoes for
'Big Charlie'**

**German
handicraft
know-how**



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'STEP BY STEP' KEEPS YOU UP TO DATE!



Peter Mueller
Head of marketing and sales

This is the first English magazine "STEP BY STEP" and I hope you are going to enjoy reading these articles. As you will already know, nora systems GmbH is a German manufacturer of premium EVA and rubber products with a long company history, operating with a very traditional as well as a very modern and high-tech market. This is what we look to convey with every publication.


Some years ago we decided to print the first German magazine with all relevant information about new and exciting products, handicraft know-how, general market news and interesting editorials. Our German customers love this magazine. But our business is becoming more and more international, and there is a great demand for international information. That's the reason why we decided to create a first English version: To keep you up to date, too.

This means we want to inform you about innovative products like the new type of material Lunatec motion, which absorbs shearing forces and has extremely soft bedding properties and we show you typical German handicraft know-how 'How to make a diabetes-adapted foot bed from Lunatec combi 3 and Lunairmed' - contents which we are introducing to you in this first issue.

The first step will be to spread this issue through our partners into the English speaking markets. To ensure you are going to receive the next issue, please write an email to: info-shoe@nora.com and tell us your postal address and the wish to receive the next issue directly and we are going to care for it.

Yours Sincerely,

A handwritten signature in blue ink that reads "Peter Mueller". The signature is written in a cursive style with a large, sweeping initial 'P'.



The German manufacturer for premium EVA, rubber and light cell: **nora**[®] nora systems GmbH in Weinheim

If you do not know the brand nora you might know the former brand Freudenberg? But let us start at the beginning: nora looks back upon more than 75 years of history: The advantages of the fascinating material rubber were recognized at an early point. Since then, innovative developments, pioneering production methods and uncompromising quality assurance, we have been creating shoe components of the highest quality. The production of shoe components began in the 1930s. But already in 1849, the company was established as a tannery with 50 employees and later on it became the largest leather manufacturer in Europe. So leather, one of the most important materials in shoe manufacture, is where we come from.

Until 2007, nora systems was part of the Freudenberg Group. Since October 2007, the company has acquired strong and trustworthy majority shareholders and co-investors, that continue to support the successful activities with all their strength. This fact gives the company the necessary freedom for growth-orientated business operations.

nora systems offers a full range of products for orthopaedic shoe engineering, shoe repair, general orthopaedics and also for industrial use. The brand stands for premium material quality, innovative product development, and a practical and varied product range. EVA sheets from nora production have advanced to become the material standard in orthopaedic shoe engineering; the standard that provides orientation for the entire industry. In their variety of colours and their different levels of hardness's and densities, nora EVA sheets have been instrumental in the pioneering development of the craft.

You may also know the brand CONTITECH. This became part of the nora product range when in 2001, the repair materials of Continental found a new home in the product range of nora. Nothing changed regarding the proven quality of CONTITECH heeling and soling materials. Since then the items have been integrated in the nora product range and are marketed under the nora brand.

With their premium, tested and certified quality, nora products guarantee safety for practitioners and patients. All production methods and raw materials they process must fulfil high ecological standards. The products are internationally certified and are regularly tested by neutral institutes. Also with regard to the environment and sustainability, nora systems GmbH is one of the leading companies in its field. Imprinted batch numbers ensure the traceability of the products the raw materials used. The closed-cell EVA materials stand for hygienic, washable and disinfected products which are above all – excellently suited for sensitive feet. The German Medical Products Law (MPG) has been in force since 1998 and governs requirements for orthopaedic aids such as individual inserts and custom-made orthopaedic shoes regarding toxicology and carcinogenicity. Of course nora products comply fully with these statutory requirements and over and above. The materials are tested and certified by several independent and approved German test institutes regarding

skin tolerability, harmful substances, wear behavior and stability through dynamic long-term stress tests, proven disinfectability of polluted foot beddings, insoles and more. A prerequisite for the use of the above mentioned quality seals are a continuous production monitoring by a quality management system.

At the beginning of the second millennium the next important step was made: the development of the vulcanized composite sheets which guarantee secure strength of different materials without any bonding. This allows people to save time and money, working with these multilayered EVA sheets. It is a sad but natural situation that a lot of market players copy great ideas. This, and the sophisticated claim to develop high level and useful products, moved nora to invent more and more new materials with different technical properties, meeting special demands. EVA, rubber and light cell are the perfect products for creating new characteristics, new solutions and new material experience.



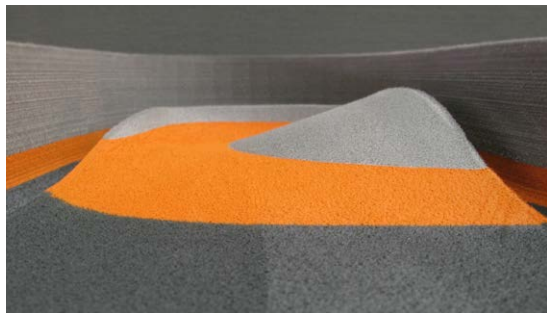
Vulcanized composite sheets Lunatec combi especially for diabetes



New extremely soft and shock-absorbing material Aero sorb



Transparent and pure EVA material LunaPur M



Single and multi-layered CAD/CAM Material

Knowing that every European Country has its own philosophy, methods of doing things, a different public health sector and unequal demands how to assess and treat patients, nora employs two Business Development Managers for these markets.

Ms. Jennifer Thoma and Mr. Américo Barrientos are responsible for nora customers in Europe. In general, Jennifer is responsible for the Northern countries and Américo is responsible for the South of Europa but as always there are some exceptions. Américo is predestined to manage countries like Spain, Italy and France because he speaks their language fluently. Jennifer worked for three years for the nora office in Salem (US) – she is the perfect contact person for countries that have a strong affinity to English.

It is their task to take care of all matters of their nora customers, to organize workshops and trainings and of course to find new market potentials.

Your contact for European Countries: Jennifer Thoma and Américo Barrientos



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New partnership for the United Kingdom market: TalarMade Ltd.



Ian Leddy, Jennifer Thoma, Francis Barrett, Peter Mueller

We are pleased to announce that the German nora systems GmbH have entered into an agreement with TalarMade Ltd. from Chesterfield, United Kingdom to provide nora premium products for the UK market. Ian Leddy, TalarMade MD states, 'We are delighted to be able to offer the nora range of premium EVA to the UK market. These are high-quality products which are a perfect complement to our existing product range.' And also Peter Mueller and Jennifer Thoma, nora systems GmbH, look forward to working together with a new reliable partner that will provide the complete orthopaedic product range to UK practitioners.

Contact for UK customers:

TalarMade Ltd, Chesterfield

Phone: +44 (0)1246 268456

Email: info@talarmade.com

www.talarmade.com

Warehouse and technical support for the US market

nora systems, Inc. is the US division of the German company nora systems GmbH. The North American headquarters are located in Salem, New Hampshire. The office contains financial services, marketing, logistics, management and customer support. It also has an 80,000 square-foot warehouse, where it currently stocks more than 150 different material types.

Since 2012 nora shoe components has been an established division in North America and provides US customers with material out of the warehouse in Salem. Over 150 different types are being stored which allows for fast delivery times. Together with Jonathan Fogg, responsible contact for all questions in regards to products, quotations, technical support etc. the team in Salem works hard to serve their customers, e.g. with samples and comprehensive customer care.



The philosophy at nora is not only to produce and test products to the highest standards possible but they have made it their mission to provide support, information and training to all the valued customers. Currently there are practical training courses offered on a bi-annual schedule, on-site at the training center in Salem, NH. Those trainings have been accredited by two accreditation organizations and bring together orthopedic shoe makers from all over



the country. With the motto “What you make it from is as important as what you make” they offer training on topics such as “footwear modifications” or “making orthotics”. The training groups are no bigger than 12 people, and a German Orthopedic-Shoemaker-Meister co-moderates the training and provides the participants with useful tips and tricks. Getting your hands on the material is as important as learning why it’s so different.

As an international company nora also takes part in the most important symposiums, exhibitions and congresses in the US. Find out how different the experience can be when you work with a company who has a long history and knowledge of the pedorthic part of our world. Just click the “nora USA” tab at www.nora-shoe.com.



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New type of material absorbs shearing forces and has extremely soft bedding properties: **Lunatec motion** and **Lunatec combi motion**

We are constantly on the move: walking, running, jumping, standing, which means a lot of pressure and straining on our feet and joints. Every step subjects them to compressive, impact, and shearing forces that must be reduced, above all for patients with painful foot or joint diseases, e.g. rheumatism.

Developed specifically for this purpose, the new EVA material Lunatec motion is available as a single material or as a composite sheet Lunatec combi motion. The composite sheet consists of the bedding layer Lunatec motion (6 mm) and a stabilising layer of Lunasoft SL (10 mm) in light blue.

With a hardness of about 10 Shore A, 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.

Specifically the composite sheet Lunatec combi motion achieves this effect due to vulcanization of the two layers of differing hardnesses and allows a smooth transition without disruptive adhesive films.

nora® Lunatec motion

bedding cushioning properties

Colour: 06 silk

Hardn.: approx. 10 Shore A

Density: approx. 0.13 g/cm³

Format: approx. 870 x 655 mm

Thickn.: approx. 2 | 3 | 4 | 6 | 8 mm





Handling information:

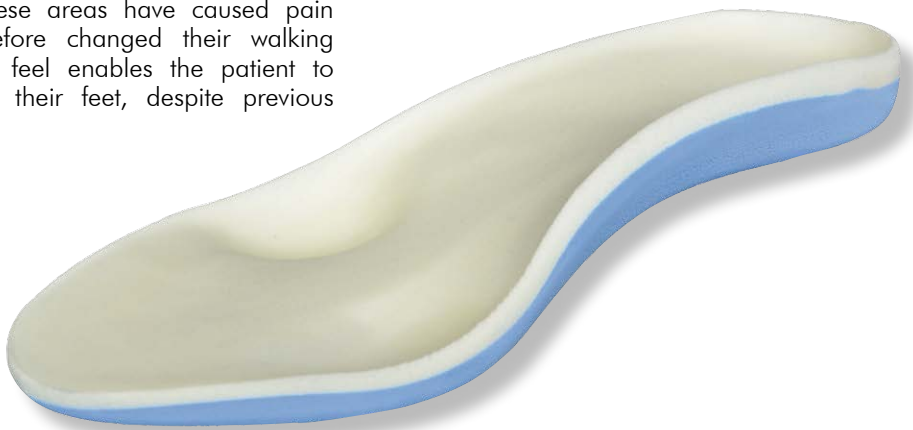
Oven setting: 130°C/266°F | Heating time: approx. 10 minutes | Cooling time: approx. 20 minutes

The cut piece of material is heated in a closed source of heat and then moulded to the last in a straight vacuum former. The **Cooling time of about 20 minutes** should be observed if the material is not to lose its shape. Afterwards, grind to shape.

Experience has shown that patients are particularly pleased about the comfortable and soft wearing comfort of this material that also allows for treatment that was inconceivable with hygienic closed cellular EVA material before.

The objective of treatment with Lunatec combi motion may be, for instance, to minimise the shearing forces between the footbed and the sole, and in this manner alleviate the pain. Moreover Lunatec combi motion may help patients to start integrating their heels or forefoot actively into their walk again, if these areas have caused pain before and therefore changed their walking pattern. The soft feel enables the patient to consciously place their feet, despite previous periods of pain.

The soft bedding effect can be felt to the maximum possible extent when it is worn without an additional top layer. A feeling of firmer standing can be obtained when a top layer of leather or EVA is put on - without compromise to the minimisation of shearing forces by the Lunatec motion layer. Higher weight classes can also be treated well with additional stabilisation in the rear foot, e.g. of Lunasoft AL.



nora® Lunatec combi motion

The vulcanised combination of:

Format: approx.. 1.200 x 960 mm
Thickn.: approx. 16 mm

nora® Lunatec motion

bedding cushioning properties

Colour: 06 silk
Hardn.: approx. 10 Shore A
Density: approx. 0.13 g/cm³
Thickn.: approx. 6 mm

nora® Lunasoft SL

stabilising properties

Colour: 27 light blue
Hardn.: approx. 40 Shore A
Density: approx. 0.20 g/cm³
Thickn.: approx. 10 mm

Blue is the new black

No matter if you are looking at the international shoe trends from the GDS in Düsseldorf or the Inter-Shoe-Service in Wiesbaden – one colour is very present and you could get the impression that blue is the new black. There are a lot of existing and upcoming trends which shows conventional shoes with leather brown soles or white EVA soles, for example. But the blue colour supplements the current fashion trends overall.

This assured nora to add more blue articles for shoe manufacturing and shoe repair into the current product range. At the last ISS trade fair the premium products "Primus" (heel with a thickness of 6,5 mm) and "bel-paso" (half-sole with a thickness of 3 mm) in trend colour blue were introduced to the market.

These well-known products for modern, high-level shoe repair and hand-made shoes are now available not only in black (81), black-brown (51) and leather brown (101) but also in colour blue (8006). This soling material allows setting a course especially for brown shoes. The heel "Primus" is available in sizes 166, 168, 170, 172, 176 and the half sole "bel-paso" in sizes 42/44, 45/47S.



"We decided for blue deliberately, because this is not a short colour trend but one which has been firmly established in the shoe fashion. This makes it interesting and applicable for our customers for a longer period."

Simone Hofmann
Marketing director

And also Astrolight Delta is available in the trendy colour jeans blue. Astrolight are anti-slip soling sheets made of expanded rubber. When developing the Astrolight grade, particular attention was directed to maintain the known good properties of Astro and at the same time to reduce the weight of the material. The result: a weight which was reduced by approx. 20%. Low weight, excellent abrasion and extraordinary resilience make this soling sheet for sophisticated demands in repair, shoe finishing, and production of flexible footwear. The profile "Delta" means an extraordinary look and safe tread. The small triangles of the profile are arranged to form a hexagon. The brand nora harmoniously and non-directionally fits into the product range.

Astrolight Delta

Profile: 95 Delta

Thickness: 4|6 mm

Hardness: approx. 50 Shore A

Density: approx. 0.50g/cm³

Colour: 352 jeans blue (and 8 other colours like stone grey, white, red, black, brown)



Astro form 15

Soft, permanently resilient, and thermoformable, a multifunctional material!

The material Astro form is made of light cellular rubber with a unique composition of properties. It is very soft and resilient, yet still keeps its shape! With Astro form 8 and Astro form 15, this material is now available in two types. Both have a closed cell structure, are hygienically washable and optimally thermoformable, and also exhibit particular softness and high permanent resilience and recovery capability after processing.

Astro form 8

Colour: 318 ice blue
Hardn.: ca. 8 Shore A*
Density: ca. 0.20 g/cm³
Format: ca. 770 x 560 mm
Thickn.: ca. 2 / 3 / 4 / 6 / 8 mm

*barely measurable according to Shore A

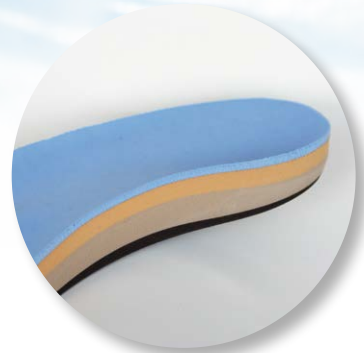
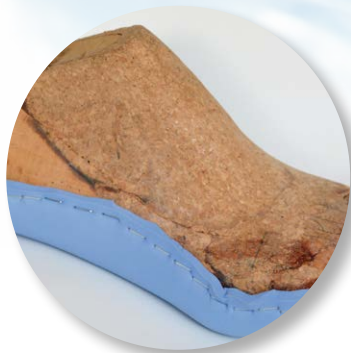
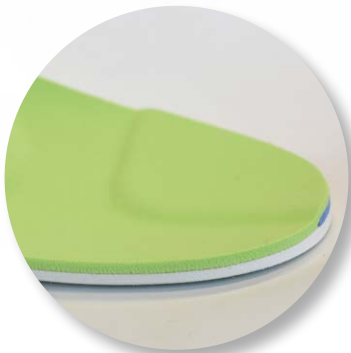
Astro form 15

Colour: 339 sky blue
Hardn.: ca. 15 Shore A
Density: ca. 0.32 g/cm³
Format: ca. 840 x 520 mm
Thickn.: ca. 2 / 3 / 4 / 6 mm

Whereas Astro form 8 is so soft that the Shore A hardness is scarcely measurable, Astro form 15 is firmer and tighter with a Shore A hardness of about 15 and a density of 0.32 g/cm³, and exhibits even greater recovery capability. The practitioner can choose between these two types depending on the load conditions, use, and area.

Astro form 15 is above all suitable for areas subjected to greater loading like individual toe

elements, heel or forefoot cushioning, insole pads, etc. The material is interesting above all for orthopaedic applications that require combined bedding and cushioning properties in the structure. When heated, Astro form 15 can be very easily drawn, placed over the workpiece, and subsequently heat molded. Thermoformable at approx. 110-130°C / 230-266°F.



Soft cushioning insole with spots:

Heel, cushioning, insole pad, and toe element of Astro form 15.

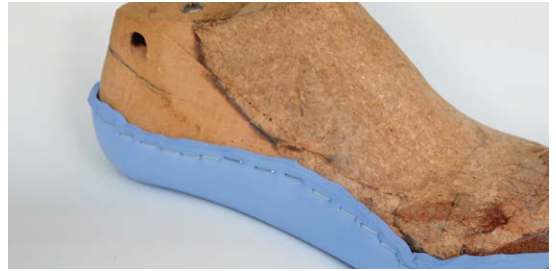


Covered proof shoe

First layer of a footbed

Advantages of this working method:

Thanks to its thermoplastic properties, Astro form 15 optimally moulds itself to the second ply during deep drawing without having to be heated separately. The permanently resilient properties of this material are retained to the maximum extent.



Classical soft cushioning insole

of Lunasoft SLW, Astro form 15, and Lunatec SE



Thin duplicate insole

with high pitch for ladies' shoes.

Astro form 15 as continuous cushioning as well as for insole pad and forefoot cushioning.



Thin duplicate insole

with heel cushioning, forefoot relief and insole pad of Astro form 15.



SHOES FOR 'BIG CHARLIE'

In his shop, shoe sizes start where in others they usually stop. Georg Wessel out of Vreden, Germany, specializes in oversized shoes.

Next to “regular” oversized shoes (men size EUR 47, US 13), he also makes custom made shoes for the tallest people in the world, for free. For many years now, nora systems supports Mr. Wessels with soling, lifting and inner-shoe material to make insoles so he can build custom made oversized shoes for the tallest people in the world. Once the oversized shoes are finished, most of the time owner Georg Wessels often travels personally to the recipients, because he knows of the tragedy of the ‘Giants’: “I have seen how those people are laughed at and many times they are isolated and very lonely.”

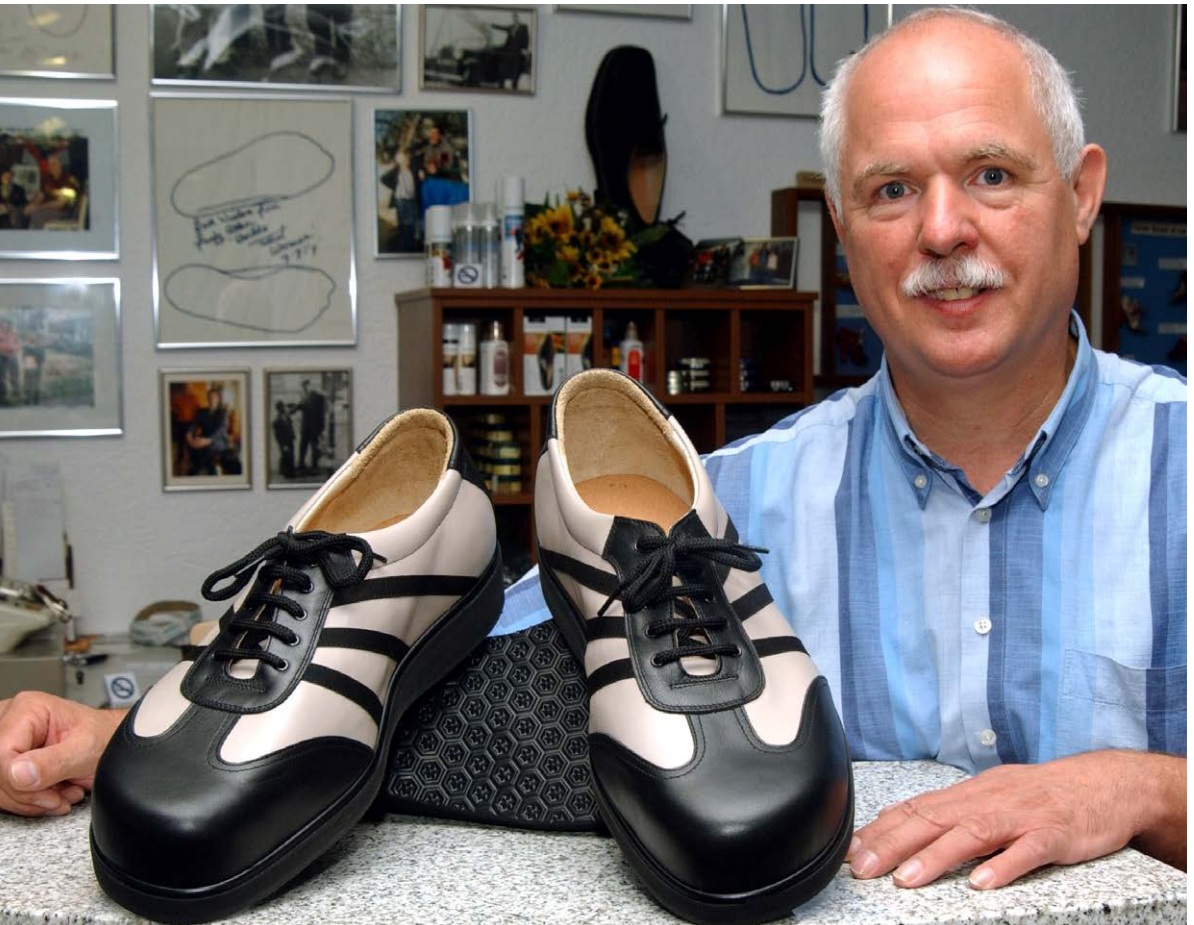
One of his latest journey's led him to Johannesburg, where he and his wife met ‘Big Charlie’ from Hwange, Simbabwe. With 2,27m (US 7'5") Charles Nyoni is currently the tallest person in southern Africa with shoe size 57 (US 24). Eight years ago, Mr. Wessels got in touch with Charlie, through the help of the aid organization Misereor.



Georg Wessels and wife Anneke with “Big Charlie” and shoes size 57



Since then Nyoni has been provided with fitting shoes on a regular basis. In his home town, the 48-year-old is said to be jinxed and has been treated accordingly. The shoes from Germany and additional donations, as for example fitting 10XL clothes, have contributed to changing his life to the better. "Since I have gotten fitting shoes and nice shirts and pants from you, people still laugh at me, but they stopped throwing stones at me" Big Charlie tells Georg Wessels. "Like that, with a pair of shoes, that are self-evident to us, we can give back a piece of dignity to this man." In regards to the donations from nora Mr. Wessel says: "Without your support in the form of materials we would not be able to achieve this aid campaign."



Specialised in selling large shoes: www.wessels-schuhe.com

German handicraft know-how: How to make a diabetes-adapted foot bed from **Lunatec combi 3** and **Lunairmed**

The selection of material for a diabetes-adapted foot bed has to be tailored to each patient individually. Depending on diagnosis, clinical picture and weight of the person, a different material mix comes into place. To make every day live a little bit easier for the practitioners nora offers several material combinations of vulcanized Lunatec combi sheets – consisting of well-established Luna-materials, functioning as bedding, permanently resilient and stabilising layers.

The practitioner decides in each case individually which composite sheet is most suitable for the patient and through which additional materials one can ensure the ideal treatment.

Each person, each health problem and each foot is as specific as the insole that it needs, and it's the job of the practitioner to fit and amend if necessary.

The following work process recommendation could be used when the diagnosis is: Diabetes mellitus, polyneuropathy or angiopathy and the patient's body weight is approx. 90 kg (200 lbs) (for other weight classes there are different material combinations recommended).

You are a major company, interested in a workshop with one of our well trained staff members, or you would like to have a workshop for your employees about characteristics of materials and about how to use nora products, e.g. to make a diabetes-adapted foot bed?

Lunatec combi 3 is a vulcanized composite sheet with a shaping and stabilising layer of 10 mm Lunasoft SLW (approx. 30 Shore A) and a permanently resilient cushioning layer of 6 mm Lunastik (approx. 25 Shore A). A bedding cushioning cover of 3 mm Lunairmed (approx. 16 Shore A), colour light blue, makes this diabetes-adapted foot bed perfect.



Then please contact us. We are happy to arrange appointments. Just send a quick email to info-shoe@nora.com and we will reach out to you for more details.



Work process:

At first a space holder out of Norit (3mm) is heat moulded over the last. It will stay at the last during all of the following working steps and leaves enough space to glue a top cover (Lunairmed 3mm) to the insole.

Oven settings: 120°–150° C / 250–300°F

Heating time Norit: approx. 1,5 minutes

Cooling time Norit: approx. 3 minutes



Secondly, Lunatec combi 3 will be heated in the oven (oven settings: 130°C | 266° F).

Heating time Lunatec combi 3: approx. 9 min

The composite sheet (16mm | 5/8") will be heat moulded in a vacuum press onto the space holder over the last.

Cooling time: approx. 18 min

After that, the insole will be grinded to shape.



Tip: Try to keep a minimum thickness in the forefoot of 7mm (9/32") to make sure that after gluing the top cover to the insole you will be able to keep a minimum of 10mm total thickness (this is the German specification for diabetes-adapted foot bedding).

Subsequently put glue on Lunairmed as well as the cushioning layer of the composite sheet and allow evaporating.

After that, Lunairmed will be glued to the insole as a top cover, from the middle to the edges.



Tip: Adhesive bonding of the top cover without heating ensures that the smooth Shore hardness stays the same.

Finally, grind the finished insole to shape.

Materials for orthopaedic engineering

High-quality, functional materials for sensitive application areas

Cushioning materials made of EVA and light cell rubber do not only find use in orthopaedic shoe engineering, but are also applicable in general orthopaedics. Most of the thermoformable materials, such as Lunatec motion, Astro form 8 and 15 and the well-known Lunairmed, are ideal materials for direct skin contact. They have the ability of thermoplastic formability, are tested for harmful substances and hygienically washable. Depending on each patient, clinical picture and type of treatment the practitioner pursues (e.g. fast rebound, absorption, distribution of pressure, derivation of shear forces, high pressure elasticity, etc.), different products with different characteristics come into place.

In orthopaedic engineering those materials are used as cushioning layers in classic orthosis, for manufacturing of soft inner sockets in the construction of prosthesis, and as padding of seat shells and for the functional lining of corsets or postural splint orthosis, as well as the padding of FO's.

The new material Lunatec motion incorporates the derivation of shear forces, in addition to very good absorption and distribution of pressure. Therefore it's most suitable for areas that are highly pressure sensitive, and through the movement of the body, exposed to constant forces.



**Supporting corset with padding
made of Lunatec motion**



**Hand orthosis with inner layer
of LunaPur M**



**Soft socket
made of Lunasoft SLW & Lunairmed**



**Cushioning hand orthosis
made of Aero sorb W**



**Postural splint
with Aero sorb M padding**



**Prosthesis stem
from LunaPur M**

Upcoming Events

For a manufacturer, trade fairs and events with specialized exhibits are interesting as an opportunity to present the products and the team, to make contact with new customers, renew existing contacts, and as an opportunity to have not only technical but also personal conversations. A trade fair connects. Meet the nora team at one of the following international events:

8 – 11 September 2016	AOPA	USA	Boston
20 – 22 September 2016	Lineapelle	Italy	Milano
1 – 2 October 2016	Cutting Edge	UK	Leeds
10 – 11 November 2016	Ortho Medical Care	Spain	Madrid
17 – 19 November 2016	College of Podiatry	Scotland/UK	Glasgow
30 Jan – 02 Feb 2017	Arab Health	UAE	Dubai
27 – 29 April 2017	Expolife	Germany	Kassel
20 – 21 October 2017	OST	Germany	Köln



Certified nora® quality, practical variety and much more...

No matter, if you are using **light cell EVA**
or **rubber soling material**... nora®
provides you with a wide, colourful &
certified range of products, made in
Germany. Rely on materials developed for
diabetes, rheumatism and other medical
applications...

**MADE IN
GERMANY**

