

Rubber covers for floors in pig keeping

► KRAIBURG rubber covers for

Lying areas for sows in group housing



paved/concrete floor

PORCA relax U / F ▶ 4

slatted floor

PORCA relax S ▶ 6

Farrowing house



confined sows

PORCA fix ▶ 8

PORCA KN ▶ 10

piglet nest

PORCA nest ▶ 10



Our Experience is Your Gain

KRAIBURG group

KRAIBURG has established itself as a competent specialist in the rubber business. The KRAIBURG Holding GmbH & Co. KG has a staff of more than 1,800 employees worldwide, concentrated in Germany, Austria and Switzerland. It holds branches in further European countries, as well as in Asia and North America.



High quality rubber

Rubber mats are subjected to extremely high stress in agriculture, especially in pig keeping. For over 40 years now we have been manufacturing high quality rubber mixtures through a highly specialized process. Especially for pig keeping we use an innovative, bite-optimized rubber mixture in the surface of our mats.



KRAIBURG housing floor covers

Since 1968 we have been active in developing and manufacturing rubber floor mats for animal housing at our site in Tittmoning, Germany. Currently 180 employees concentrate only on this.

Tested quality

Our goal is more than only to fulfil the standard legal requirements. We went a step further by additionally being certified with the worldwide ISO 9001 standard. We have our own laboratory and there we continuously test the characteristics of our products.



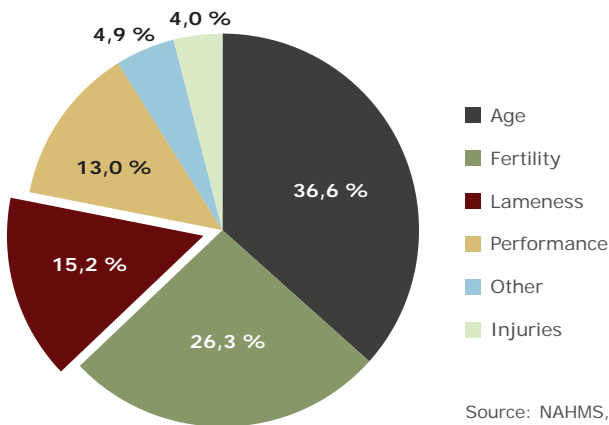
Have you got any questions?
We look forward to hearing from you!



You can call us at: +49/8683/701-303
(We speak English, German, Russian)

Why rubber mats in sow houses?

Causes for culling sows



Financial losses from lameness

- *increased replacement costs*
- *fewer piglets*
- *higher crushing losses*
- *etc.*

40 EUR per sow in the herd and year

Source: Grandjot, 2008

diseases are often more expensive than estimated at first

lameness is the third most frequent culling reason and affects fertility and performance negatively

Rubber mats in the lying area contribute to sow well-being and health and are decisive in the economic efficiency of sow keeping.

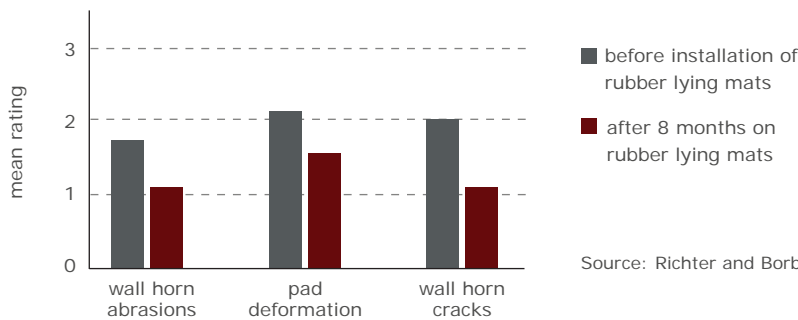
Group housing

Extremity problems like claw and limb diseases, as well as lameness, are increasingly among the reasons for culling sows in group housing. For group housing to function with high performance animals, sow agility and freedom of movement, together with joint and claw health, are the paramount factors. Conventional concrete floors are too hard and abrasive, especially in the lying area.

Consequences:

- lying down and getting up on hard floors takes effort and negatively affects lying behaviour
- joint swelling
- joint and wall horn abrasion during lying
- mechanical weakening of the claw
- injuries are entryways for pathogens, on the joints as well as the coronal edge (paronchia)
- severe lameness to some extent

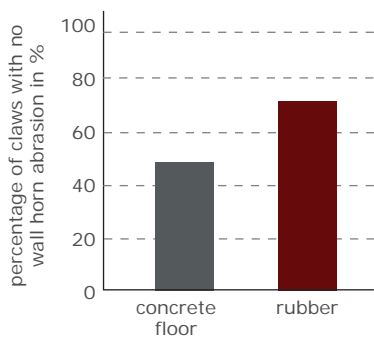
Claw health – concrete and rubber in comparison



Source: Richter and Borberg, 2012



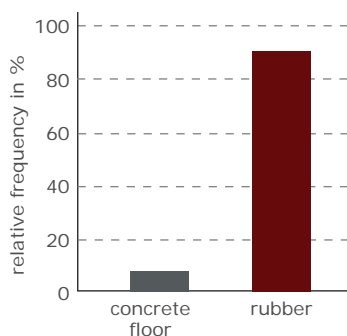
abrasions on joints and claw wall



Source: Jais, 2013

significant improvement in extremity health on rubber

Preference behaviour – concrete and rubber in comparison



Source: Baumann, 2013

sows prefer lying on rubber

PORCA relax ▶ the rubber mat for the lying area of sows

- comfortable lying
 - ▶ the sows like to lie down on the mats
 - ▶ helps to structure the pen
- significantly reduces claw and joint injuries, therefore
 - ▶ less lameness
 - ▶ improved agility for the unrestricted fulfilment of basic needs in loose housing
- high durability through an innovative bite-optimized Protect-surface from a special rubber mixture
- available as:
 - ▶ **PORCA relax U/F**: for paved lying areas with a slope
 - ▶ **PORCA relax S**: for lying cubicles on slatted floors or paved lying areas with no slope



bite-optimized Protect-surface

PORCA relax U/F ▶ for paved lying areas with a slope



bite-optimized Protect-surface and rigid edge



smooth lower side

- framed rigid edge
 - ▶ integrated ridge protection
 - ▶ optimal positional stability
 - ▶ easy installation

Dimensions:

thickness:	width:	length:
2 cm	120 cm	200 cm

Installation: generally 6 fastenings per mat
+ additional 3 fastenings per linear meter of exposed edge*



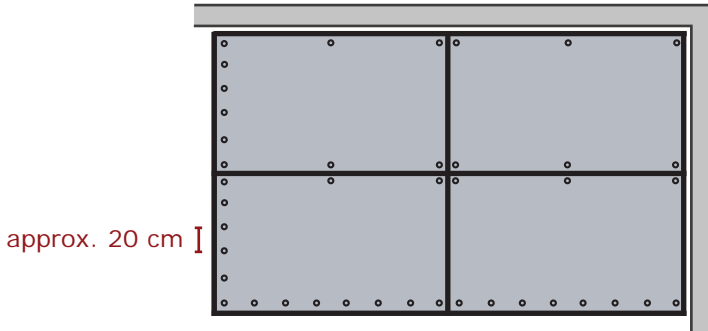
KRAIBURG fastening system for paved/concrete floors:
rounded off and flush countersunk

a) PORCA relax U (universal)

- standard dimensions for laying out on all different kinds of areas
- some mats might have to be cut to fit at the edges of the area (please note: the cut edges should be laid by the wall)



Installation example:



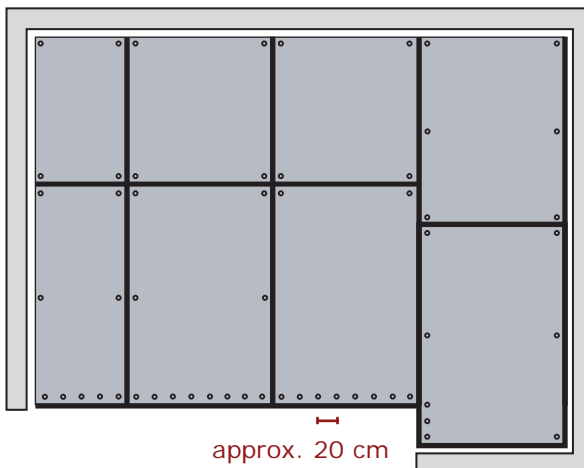
b) PORCA relax F (form)

Fits perfectly!

- tailor-made projected solutions for areas with one or more connected rectangular areas
- we will custom make the mats for you and include simple directions for installation
 - easy installation – practically no cutting – no waste



Installation example:



* Please take notice of the corresponding KRAIBURG installation instructions with useful advice and tips. You will obtain these at your local KRAIBURG dealer or at www.kraiburg-elastik.com.

PORCA relax S ▶ for lying cubicles on slatted floors

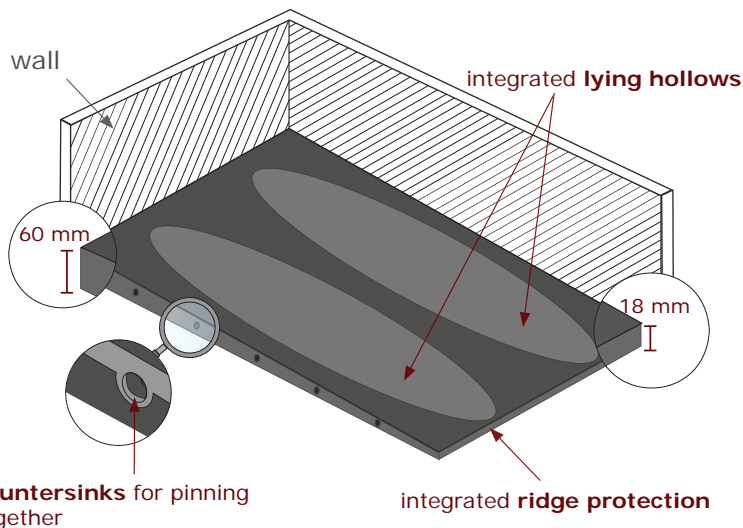
NEW



- diagonally gridded base-frame ideally covers slatted floors
- comfortable lying with a soft air cushion base frame
- various slope zones with up to 3.5 % slope for better cleanness
- integrated lying hollows for comfortable lying
- prerequisite: there are walls on three sides of mat row
- also possible on paved floors



gridded base-frame



KRAIBURG connection pins:
for simple attaching/pushing together



KRAIBURG fastening system for slatted floors:
special slat anchor for fast and secure installation and detaching (slit width: 15 - 17 mm or 18 - 21 mm)

Dimensions:

thickness:	width:	length:
18 mm – 60 mm	110 cm	185 cm

Installation: standardly the mats are connected on the long side with 5 connection pins, fasten mat on the open edge with about 5 slat anchors / mat*

* Please take notice of the corresponding KRAIBURG installation instructions with useful advice and tips. You will obtain these at your local KRAIBURG dealer or at www.kraiburg-elastik.com.

Farrowing house

Existing floors in farrowing houses are often slippery.
Hard lying surfaces increase the risk of shoulder ulcer formation.

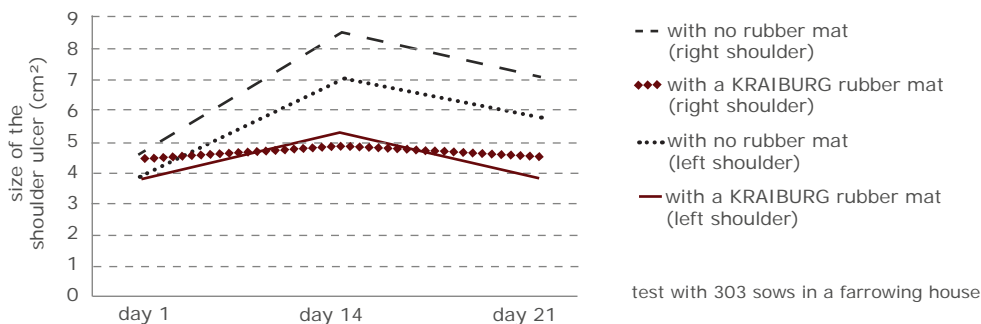
Consequences:

- with fear of slipping sows get up less
 - ▶ decreased feed and water intake
 - ▶ increased risk of MMA (mastitis-metritis-agalactiae syndrome)
 - ▶ rearing performance gets worse
- increased crushing losses
- lying too long in one position increases the risk of shoulder ulcer formation
 - ▶ inflammations and pain lower sow performance



shoulder ulcer

Shoulder ulcer – concrete and rubber in comparison

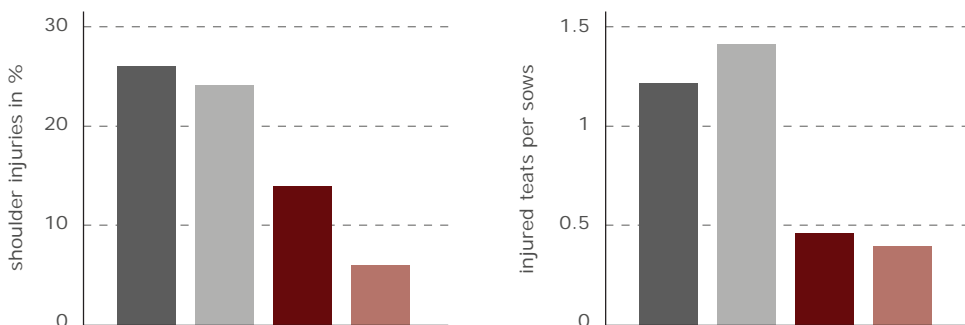


significantly less pronounced shoulder ulcers when kept on rubber mats

Source: Annual Report Danish Pig Production, 2007

Shoulder and teat injuries – concrete and rubber in comparison

- cast grid
- PORCA fix 65 cm wide
- plastic grid
- PORCA fix 85 cm wide



significantly reduced shoulder and teat injuries on rubber mats

Source: BoKu Wien, 2012

PORCA fix ▶ for confined sows

NEW:
starting now in
one-piece!



variant PORCA fix D



front area:
bite-optimized
Protect-surface

rear area:
pebbled profile
surface

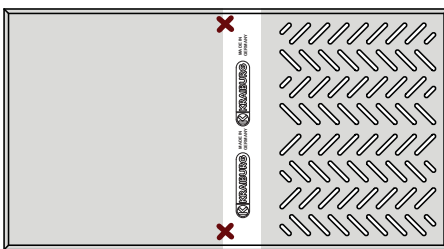


variant PORCA fix U

- front area with bite-optimized Protect-surface
- long lifetime
- is easy on the sensitive shoulder section
- reduces the danger of teat injuries
- improved slip resistance
- chamfered animal-friendly on all edges
- cushions piglets' carpal joints during suckling
- available in two variants:
 - ▶ **PORCA fix D:** perforated for drainage in the rear area
 - ▶ **PORCA fix U:** not perforated in the rear area



Installation: *



- ▶ mat must be secured so that it cannot slide out of place (e. g. long screws, slat anchors fitting for the floor, ...)
- ▶ as a rule, 2 fixations in the middle of the mat will suffice
- ▶ detaching and cleaning are not hindered



e. g. long screw with washer secured with a nut from underneath

* Please take notice of the corresponding KRAIBURG installation instructions with useful advice and tips. You will obtain these at your local KRAIBURG dealer or at www.kraiburg-elastik.com.

Dimensions:

thickness: 2 cm
lower side: smooth

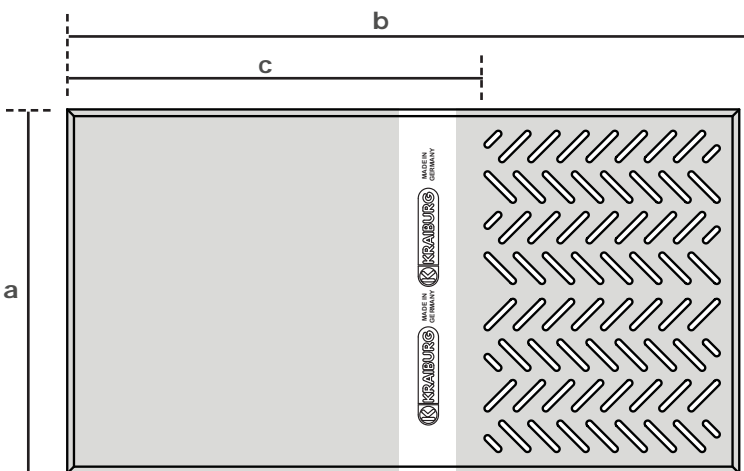
PORCA fix D:
 (slatted in the rear)

slit width:
 11 mm

width: (a)	total length: (b)	total area: (a x b)	length of unslatted area: (c)	unslatted area: (a x c)	slit percentage:
56.5 cm	125 cm	0.71 m ²	79.5 cm	0.45 m ²	6 %
65 cm	120 cm	0.78 m ²	74.5 cm	0.48 m ²	7 %
65 cm	125 cm	0.81 m ²	100.5 cm	0.65 m ²	3 %
70 cm	110 cm	0.77 m ²	70.5 cm	0.49 m ²	5 %
85 cm	125 cm	1.06 m ²	76.5 cm	0.65 m ²	5 %

PORCA fix U:
 (unslatted)

width: (a)	total length: (b)	total area: (a x b)
65 cm	120 cm	0.78 m ²
70 cm	110 cm	0.77 m ²
85 cm	125 cm	1.06 m ²



- ▶ please consult your official vet to check the slatted/unslatted areas, as legal requirements vary
- ▶ special dimensions on request

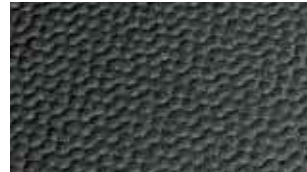
PORCA KN ▶ for confined sows

- simple mat with no bite-optimized surface
 - ▶ low-cost wear commodity with limited lifetime (experience: lasts about 6 – 12 months)
- simple installation
- easy to clean and disinfect

Dimensions:

thickness:	width:	length:
18 mm	65/70/80 cm	110/120 cm
	110/120 cm	175 cm

further dimensions available on request



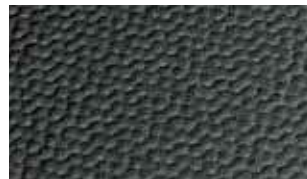
pebbled profile surface



sturdy groove profile on lower side

PORCA nest ▶ piglet nest

- rugged and durable
- good storage and distribution of radiated heat
 - ▶ energy losses are reduced
- easy to clean and to disinfect
- easy retrofitting, even on existing grids
- creates a continuous surface in the piglets' lying area (EU directive)
- no draught from underneath
- piglet nest can easily be enlarged when litters are bigger
- as a rule no fastening required due to mat's weight (the mat must be unreachable for the sow)



pebbled profile surface

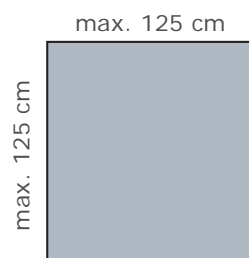
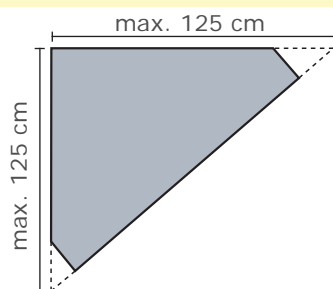
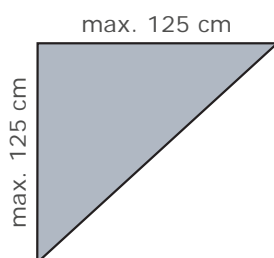


sturdy groove profile on lower side

Dimensions:

thickness:	shape:	dimensions:
18 mm	triangular/quadrangular/pentagonal	variable, maximum side length: 125 cm

Examples:





„For many years I have been using **PORCA nest** as a **lying cover for the piglets** underneath the infrared heater. The mats provide **good insulation on the slatted floor** and **good heat distribution helps to save energy**. The piglets are very comfortable in their nest...”

Th. Böhm, Hoyaer Ferkelaufzucht GmbH & Co. KG, Kölsa, Germany

„Actually I have only few problems with my farrowing pens. I have been using **PORCA fix** for about 5 years, but only for animals with weak extremities. They can get up better and lie down more safely. **Joint injuries heal noticeably faster**. The mat is **installed quickly** and also **detaching and cleaning are not problematic**. So far none of the mats show any signs of bite damage.“

H. Lebacher, Tittmoning, Germany



„My animals had massive claw problems. A substantial number of animals were more or less lame. In June 2010, first I installed one row of **PORCA relax** in my **dynamically occupied gestation house**. After I saw that the **sows really liked the mats** and that their **extremity health improved enormously in a short period of time**, I installed a second row of **PORCA relax**. Now all sows have room on the mats. **There is virtually no more severe lameness**. I was really impressed by how **simply and fast the mats could be installed**. Due to their insulating properties **the animal house requires considerably less heat in winter**.

Contrary to my expectations, the sows readily used **the lying area in midsummer and kept it clean.**“



W. Daiber, Uhingen, Germany

„In Denmark the **KN mat** has been used for almost 20 years in pig keeping, especially in farrowing pens, piglet nests and in the sections for the sick and injured.“

The farmers are very satisfied, because **hardly any shoulder ulcers develop on rubber mats**. The mats are also used for refurbishing piglet nests or in new constructions, in order to **save energy costs through their insulating effects**.



The piglets benefit from better health, and especially their **sensitive carpal joints are protected**.”

Sten Andersen, Dan Egtved, Denmark



„In my new gestation house constructed in 2012 with responder feeding, **about half of my lying cubicles were equipped with PORCA relax S mats**. First, I was very skeptical, but now I am convinced: **my sows feel “bloody good”, they clearly prefer the rubber mats**. These lying areas are always occupied first. **The PORCA relax S really remains very clean, because of the integrated slope – even in summer.**“

Johannes Ertl, Fraunberg, Germany



„The PORCA relax mats in the gestation house with their novel Protect-surface installed 4 years ago still don't show any bite marks.

Rubber mats for cattle housing used in previous tests were not durable enough and the sows bit them to pieces within a short period of time. The sows visibly lie down in a relaxed manner. Comfortable lying can be expected.“

R. Schulte-Sutrum,
LWK NRW Haus Düsse,
Germany



“Our tests in the gestation house till now show that sows **prefer rubber mats**, in comparison to concrete, and have **improved claw health** in the sections with mats!”

Dr. W. Pflanz, LSZ Boxberg,
Germany



“Contrary to our expectations, the KRAIBURG PORCA relax mats with a bite-optimized protect surface, installed **in our gestation house more than three years ago**, are still **completely intact**. In preliminary tests customary rubber mats quickly showed bite marks and were destroyed by our sows within a short period of time.“

Ch. Meyer, LVZ Futterkamp,
Germany



Landwirtschafts-
kammer
Schleswig-Holstein



Installation – easy and fast

The guidelines to correct installation can be found in the installation instructions!

You will obtain these at your local KRAIBURG dealer or at www.kraiburg-elastik.com.



KRAIBURG manufacturer guarantee

PORCA relax: 2 years

PORCA fix: 2 years

More detailed information is available on request.



Tolerances

thickness: +3/-2 mm **length+width** +/- 1.5 % (DIN ISO 3302-1 tolerance class M4)

The tolerances also apply within the mat.

The products presented here should only be used for the mentioned applications. Technical specifications are subject to alterations. All sales are subject to our General Terms and Conditions. Legal basis is the German version of the document.



Questions? - We look forward to hearing from you!
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(We speak English, German, Russian)

Your KRAIBURG dealer:



English

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