



Innovative injection additives for savoury delicacies

Economy and easy handling –
with Hydrosol's competence.



Developing customized solutions in the meat laboratory

Ham specialities are popular in many parts of the world. Hydrosol has the injection additives for them.

There are ham delicacies of many kinds: they include French gourmet ham, German "delicatessen" ham, English sandwich ham, Arabian poultry products, Italian pizza ham and the many Russian ham specialities. But all these products have one thing in common: at our meat laboratory we have developed modern injection additives and formulations for them that can naturally be modified and optimized as the customer wishes.



Cooked ham: the new generation

With proteins, fibres and hydrocolloids for higher yields

Cooked cured products are made from specific cuts of pork. Delicatessen ham, for example, may only be made from parts of the leg. In order to ensure efficient yields and attractive products from these cuts, tailor-made combinations of active substances have to be used. The specific exploitation of

synergisms makes it possible to activate the meat protein and guarantee reduced cooking losses and good sliceability.

Applications	Stabilising system	Properties	Injection
For higher yields without the use of soy protein	PLUSstabil HAM 80 AP	Dry end products achieved with highly functional collagen fibres. No off-taste caused by vegetable proteins	50–80 %
Universal product for all full-muscle ham	PLUSstabil Unibac PP	Minimizes carrageen featherings in spite of high yields	60–100 %
For meat qualities with a low pH	PLUSstabil Unibac SR 2	Quality fluctuations can be minimized. Maintains the natural meat structure	60–100 %
Thin brine for large injection volumes	PLUSstabil Ultrabind V0	Extremely low dosage: 3.5 kg to 100 l water	70–140 %

Cooked ham: the classic product

With hydrocolloids (only) – for products (including poultry) with a medium yield

Whereas the use of hydrocolloids in cooked ham was practically unknown before 1980, the synergistic effects of gelling and thickening hydrocolloids and their positive interaction with the native meat protein began to be

exploited in later years. Cooked hams produced solely with carrageen are moist and have a strong tendency towards syneresis if stored for any length of time. For that reason, Hydrosol uses only specific combinations.

Applications	Stabilising system	Properties	Injection
For poultry, whole or cuts	PLUSstabil Meat 40	Very inexpensive product	20–40 %
Poultry products and cooked ham with medium yields	PLUSstabil HAM 60	Slightly viscous brine; no off-taste caused by vegetable proteins	50–80 %
Can be combined with soy products already in stock	PLUSstabil Unibac 30	Concentrated product with a high level of active substances	60–100 %

Cooked ham: the original product

With sugar substances only, with or without phosphate – dry, with a distinctive cured flavour

It is difficult to achieve consistent quality in the production of good, traditional cooked ham. Fluctuating meat qualities that vary according to breeding and feeding methods have a strong influence on the quality of the ham. In order to

maintain a consistently high quality standard the meat processing industry has to compensate for these fluctuations by using specific stabilising systems.

Applications	Stabilising system	Properties	Injection
Jambon Premier	PLUSstabil HAM 10 Cl	Clean-label; contains no phosphate	10–20 %
Cooked and crusted ham	PLUSstabil HAM 50	With balanced herbal and spicy notes	20–50 %
Formed ham	PLUSstabil HAM 30 PLUS OC	With fibres, without carrageen	30–60 %

Re-formed ham

Formed ham, pizza ham, sandwich ham

Besides whole-muscle brine-injected ham, there are methods of producing re-formed products in which the brine is added to the previously chopped meat without injection. The advantages lie in the simplicity of the production process and the attractive yields.



Application	Stabilising system	Properties	Dosage
Restructured cooked ham	PLUSstabil HAM 100	Without starch, with animal proteins. Yield: 160–200 %	2–3 %
Restructured cooked ham	PLUSstabil Unibac 40 OA	Starch or soy protein must be added. Yield: 220–250 %	2–3 %



Streaky cuts of meat: the inexpensive alternative

Very attractive products for many consumers are cured neck or belly of pork and streaky bacon, that can be served hot or cold. Special injection additives are needed for this, for if the

classic products are used for streaky cuts, pockets of jelly may form between the lean meat and the fat, and more streaks occur in the lean part of the meat too.

Application	Stabilising system	Properties
Neck and belly of pork (also poultry)	PLUSstabil Unibac ST	Attractive appearance even at higher yields

Pork: not just golden-smoked – the grey roast

The smooth, firm meat structure customers often expect with cooked ham is not usually desirable in a grey roast. On the

contrary: the "natural" meat fibres should still be perceptible during eating.

Applications	Stabilising system	Properties	Injection
For making an inexpensive roast	PLUSstabil BAC 80 M	Good yield, natural meat structure without an off-taste of phosphate	160–200 %
For top qualities with a low yield	PLUSstabil Meat 60/C	As above	120–160 %

Fresh meat and breaded escalopes: tender and succulent

In the USA, 60 % of the meat sold through the supermarket chains is MEM (moisture-enhanced and marinated meat). Unlike additives for ham injection, compounds for these

products have to ensure natural, attractive products with a low salt content and without a tumbling process.

Applications	Stabilising system	Properties	Injection
Fresh meat: natural or marinated	PLUSstabil Meat 15/C	Based on organic food acids. Freeze-thaw resistant	115–125 %
For breaded escalopes	PLUSstabil Meat 15 WP	Very label-friendly. Reduces weight loss during deep-frying	115–125 %
As above	PLUSstabil Meat 60/C	Enhanced pan-frying and deep-frying properties	120–160 %

Research and development: the future belongs to synergies.

From among hundreds of individual ingredients, we can test the right combinations to develop stabilising systems that are an exact fit for specific customer needs. It takes a great deal of specialist knowledge and experience to anticipate how individual raw materials will interact to produce the optimum synergistic effects.

What you can expect from us:

- Development of tailor-made stabilising solutions
- Creation of new or improved formulations
- Process optimization
- A versatile applications laboratory with extensive test facilities
- Assistance with production trials
- Training courses and seminars
- Help with new marketing concepts
- On-site consulting

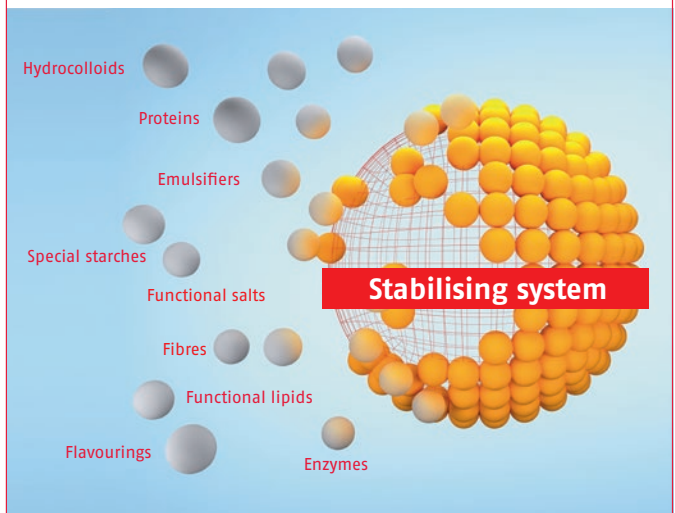
Meat laboratory equipment:

- Vacuum and micro-cutter
- Combined cooking and smoking plant
- Various injector and tumbler models
- Vacuum filler
- Autoclave
- Co-extrusion line for alginate casings



Over 3,000 m² of space for product development and applications technology at our Technology Centre in Ahrensburg, near Hamburg

From a single ingredient with a single effect ...



... to a Hydrosol stabilising system with multiple effects.

We have innovative ideas – and excellent technology for implementing them.

In Wittenburg, near Hamburg, Hydrosol operates one of the most advanced compounding plants in Europe. Precision blending lines and a state-of-the-art fluid bed unit make it possible to produce customer-specific functional systems of the highest quality.

Our production plant in brief:

- Blending, agglomeration, instantization, coating, drying, spray granulation, grinding
- Formulations accurate to the gram, with very fine, homogenous distribution
- Flexible and efficient handling of different batch and order sizes
- Highest compliance with recipes, and top process safety

Our standards and certifications:

- FSSC 22000
- Allergen management
- Kosher and halal management
- "Bio" seal for organic products





And what can we do for you?

The Hydrosol Applications Team for meat and sausage products

Hydrosol: that's us, the "Stabiliser People", your competent partners for customized meat and convenience products – much more than just the production of ham. We are a rapidly expanding, international company with affiliates around the world. We develop and produce tailor-made stabilising systems for meat and sausage specialities, fish products, dairy products and ice cream, desserts, deli foods and ready meals.

Hydrosol at a glance:

- International market competence in stabilising systems
- Pilot plants for meat, fish, deli foods, dairy products, ice cream and spray drying
- State-of-the-art processing in a fluid bed unit to create agglomerated products
- Member of the "Know-How Connection" of the Stern-Wywiol Gruppe
- 30 years of experience in applications research

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