

MORSA

Wax Reclamation

reclaimed runner/sprue wax
reconstituted pattern wax



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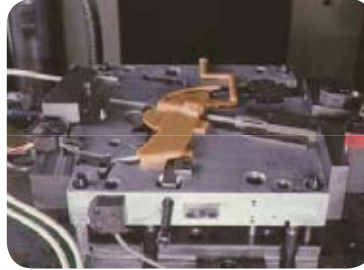
MORSA is quite a new name in the precision investment casting industry but not in the wax industry. With a history of more than 100 years in producing dental waxes and technical waxes for many different industries, MORSA has gained extensive special knowledge when it comes to developing innovative wax solutions. This know how is also the reason why MORSA is successful as a supplier to the investment casting industry as a pioneer of recycling wax.

MORSA Wachswarenfabrik GmbH is qualified to provide quality recycled PIC wax to agreed customers specifications or to virgin like properties with both economic and environmental benefits. The knowledge and experience in this field acquired since 1997, has led to ascertain that the use of reconstituted PIC waxes allow the foundries to profit from **enormous cost benefits and also wax disposal costs are avoided.**

MORSA certifications:

Certification to ISO 9001:2008, certification and monitoring waste management facility were all completed successfully and must be renewed annually. These processes ensure quality and consistency of our products.

Our main production facility, company headquarters and distribution center is situated in Krumbach (Germany).



Road to Market:

Flexibility, dynamism, high professionalism, propensity to accept technological challenges and a strong collaborative spirit are the characteristics of every of MORSA's departments that drive us forward:

from Commercial Organisation highly specialised in customer support, understanding customer process and needs, to R&D- Department emphasizing on technical application; to production, up to logistics able to work faster than many competitors with being located in the center of Europe.

Our final goal is the foundry's success, which we contribute to with high value-added service & products at very attractive terms.

Reclamation of wax is a process where MORSA elaboratively dewater, cleans and homogenizes a foundry's used wax for the purpose of re-use.

Because of our innovative reclamation process, no virgin additives are needed as an additive to maintain agreed usable specifications as a **gate or runner wax**.

Reconstitution of wax is an advanced recycling technique where MORSA elaboratively dewater, cleans and homogenizes a foundry's used wax for the purpose of re-use.

In this process virgin additives and eventually fillers are blended with the wax to return it to the original specifications for the use as a **pattern or sprue material**.

The final properties are very much in line with those of the virgin material.

With reconstituted wax big cost savings are achievable, with no loss of performance or quality.

Wax reclamation – Processing route

Customers' used autoclave wax is sent to MORSA for reprocessing where it is kept strictly separate from other returned wax and then reconstituted and cleaned to the agreed specifications.

Recycled wax is then returned to the customer as:

(Non or low/high –filled) Reconstituted pattern wax for pattern production
or
Reclaim wax for runner systems

The use of reconstituted pattern wax allows the production of a complete range of patterns with significant cost benefits and no reduction in quality.

In-house innovations of our recycling process led that our recycling is very advantageous:

For example: only very little thermic stress of the wax is caused due to heating constantly below 90°C. This also means our process is very environmental friendly. Also in many cases there are no additives needed.

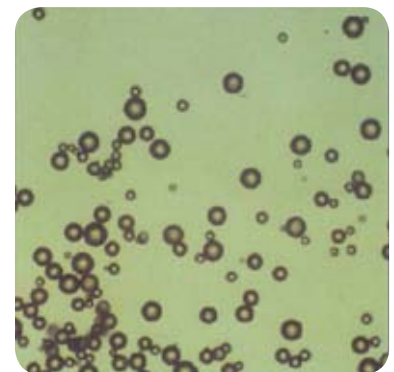
The actual volumes of recycling wax are mainly dependent of the quantity of contaminants and water present in the autoclave wax. However it is possible that often even more than 80% of the used wax can be reconstituted.



MORSA Lab facilities

Services:

- Wax testing
- Quality assurance according to ISO 9001:2008
- Research and Development
- Testing of raw input materials
- Technical reports
- Evaluation of incoming used wax
- Tailor / customer specific developments
- Collaboration with universities and external institutions
- Quality control of batches



It is very important for the production of high quality castings that wax properties are correctly controlled in our laboratories. The very strict quality control procedures employed by MORSA ensure consistency and compliance with important specifications like for example:

1. melting (drop) point / drop point
2. congealing point
3. ash content
4. penetration
5. viscosity
6. sedimentation

Beside these standard wax tests many more are possible like f.e. DSC, Linear expansion, rheology etc.



Incoming used wax & raw material input control:

The incoming wax from a foundry is specially marked and kept strictly separate so each customer receives back their own material in order to ensure exclusion of unwanted elements. Each customer receives a certificate of analysis for every batch.

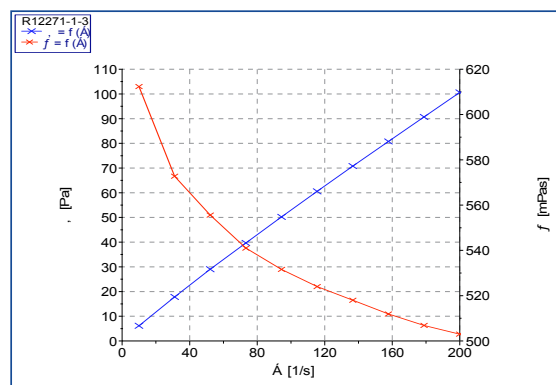
Quality comparison: reconstituted versus virgin wax

No disadvantage to chemistry can be found in reconstituted wax.

There are no significant increases in key elements as well as no significant increases in ash content.

Specialised Waste Management license

Viscosity of reclaimed wax shows virtually no difference to virgin wax



Product Forms :

Form of delivery: reconstituted pattern / reclaimed runner wax

- either pellets / slabs / cartouches
- In 25 kilo bags
- In 500 kilo 'Big Bags'

Packaging:

- EU-Pallets, PE foil

Served industries:

Automotive, Aerospace, Industrial Gas Turbines, Medical, Defence, Communications, Microwave, Electronic industries, Marine, Jewellery... etc

Bilder der verschiedenen Spitzteile sowie der Brennkammer mit freundlicher Unterstützung der Firma :

FEINGUSS BLANK GmbH

Sitz der Gesellschaft: Industriestr.18 | D-88499 Riedlingen

Handelsregister Ulm HRB 650359

die uns diese als Quelle freundlicherweise zur Verfügung gestellt hat.



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