Lasting Sustainability

For decades

In 1887 Arnold Valentiner=Branth started with coatings for dairies, already aware of the need to use effective protective coatings (heat, cold, moisture, bacteria) with a particularly low hazard potential (natural food).

In 1957, the first Brantho-Korrux was introduced as a high performance rust protection coating and specifically as a lead free alternative to the red lead that was common at that time. Even then, it already had a low VOC content (although this term was not common then) and a high solid content.

In 1987 we began to consistently replace solvents and raw materials containing aromatics. In this time all chromate containing pigments were also replaced. Storage and production were changed to largely closed systems.

In 1997 we already (and still today) produced Brantho-Korrux completely free of hazardous waste. And we already used eco electricity from hydropower, and had the first electric car, and were certified by the EU Eco Audit, etc..

2007 We have consistently reduced VOC content and gradually eliminated potentially dangerous ingredients. Nearly VOC free alternatives were developed, tested, verified and the production program was extended accordingly.

2017 We are the first manufacturer in Germany to supply not only cans of spray paint with twice the amount of active ingredient (and correspondingly reduced VOC content), but also with compressed gas made from renewable bio residuals.

In addition to green electricity, we now also use CO2 neutral gas. Thus, the production of the Brantho-Korrux is largely CO2 neutral.

And we still continuously improve. As a traditional family owned business we have geared our company for long term goals. After more than 130 years, the 5th generation is beginning to take on responsibility in the company and to contribute ideas. One of the focal points in the coming years will be a further optimization of sustainability in the supply chain.

lasting Systainabillity...

... is for us:

... is <u>not</u> for us:

- a short term fashionable phenomenon
- only something for future action

Raw Material Procurement

Paints and coatings are manufactured from 4 groups of raw materials: Binders (resins), pigments (functional and colour pigments), solvents (from petrochemicals, renewable raw materials and/or residues, water) and additives (smallest quantities added for specific characteristics).

The main components of our binders have always been natural resins and oils. They do not exclusively consist of resins and oils, but they are rather chemically modified for a much better durability. Before this, any harmful, undesirable impurities are removed.

Pigments can have diverse functions (electrochemical corrosion protection, barrier effect, increased adhesion) and/or an aesthetic function (colour, visibility, warning effect). Like the binders, they should be durable in order to save resources. Natural pigments are freed from harmful impurities, and synthetic alternatives are only used when unavoidable.

Solvents fulfill technically important functions. Since they evaporate after application, special attention is paid to protecting the applicator and the environment as far as technically possible: Using as few solvents as possible saves resources by reducing emissions and increasing coverage and productivity. Using as harmless solvents as possible ensures the lowest possible impact on people and the environment.

In recent years, the main focus has been on additives, which are only contained in very small quantities and whose proportions have been further reduced and/or eliminated. More than 95 % of our products do not contain biocides (and do not need any), 100% are free of zinc, chromate and lead (already for a long time), free of xylene, toluene, amines (also for a long time) and isocyanates (except 2K products).

In the future, the focus will be on CO2 reduction in the supply chain and on reducing carbon dioxide emissions during the production and transport of our raw materials.

Our production

We manufacture Brantho-Korrux exclusively in Germany. This guarantees particularly high standards for environmental protection and occupational health and safety, which we have always clearly surpassed.
In the early 1960s, when it was still common practice to disperse high quality coatings on open roller mills, we were the first paint factory in Northern Europe to commission largely closed pearl mills.
This was a challenging transition, which took about 25 years for all products, colour shades and batch sizes until the last triple roll mill was dismantled.

Unnecessary residues related to barrel handling have been significantly replaced by appropriate raw material tanks. By coordinating the raw materials, sophisticated production techniques, and intermediate and finished product stocks as additional buffer zones, it was possible to organize the internal recycling process in such a way that the production of Brantho-Korrux has not produced any hazardous waste since the mid 1990s.

The production of high quality coatings is relatively energy intensive. Our coatings should be of high quality in order to ensure a long term protective effect that conserves resources. For this purpose we have been using CO2 neutral electricity since the mid 1990s. Since then, we have been reducing our power consumption by improving motor controls in the various areas (compressor, agitators, pumps, dissolvers, bead mills), switching to LED lighting and much more.

For more than 20 years we have not used drinking water for cooling, but have installed economical CFC free cooling water circuits.

Already in the 1990s, we were the first independent company in Hamburg to successfully complete the EU Eco Audit (later EMAS). Since the introduction of ISO 14001, we have also been audited in accordance with this international standard. And for each of the more than a dozen re audits by external experts, continuous improvements were demonstrated.

Products and Product Development

Compared to the manufacturing process itself we achieve greater sustainability through the properties of our products. Each coating consists of 20-40 raw materials, which in turn consist of one or even up to a dozen raw materials. In product development and raw material selection, we carefully weigh up the benefits and environmental footprint and the short term and long term effects in each individual case.

As far as possible, renewable raw materials should not impair biodiversity and should not compete with food production. And they should not have a negative effect on durability and not allowed to increase the risk for the applicator, etc. Natural raw materials are not only subject to quality fluctuations but often contain harmful impurities. In such cases, it is necessary to consider whether cleaning processes are more harmful to the environment than the production of nature identical substitutes.

In addition to the use of sustainable raw materials and production and products with the least possible impact on the environment, it is particularly important that our coatings last for a long time and protect for a long time, which saves resources sustainably.

By the way, the selection and development of our packaging is also part of this. As far as possible, no coating should be unused by our customers. Light and stable, graduated sizes, tightly resealable lids, easy to empty, easy to recycle and many other criteria are taken into account.

Spray paint cans have been around for a long time and have a bad reputation for sustainability. But they are not without their uses, because they help to save material (brushes, rollers, cleaning materials) for small touch ups. We have been supplying them for this use for a few years. Our ‘comfort cans’ (=high build spray cans) do not contain any climate damaging propellant gas, but compressed gas, which is obtained on the basis of biological residues (and is therefore almost CO2 neutral). And they contain about twice as much paint as usual spray cans, which saves resources and greatly reduces emissions.

Product application by our customers

Our customers achieve the greatest sustainability during application of our products. Nobody uses coatings to pollute the environment, but to preserve machines, plants, bridges, masts, railings, vehicles, etc. in sense of sustainability. High quality paints with comparatively low environmental impact (during production, application and disposal) ensure the best sustainability.

There is no known way to protect surfaces with coatings that have no environmental impact at all when applied. However, there were and are a multitude of possibilities to minimize the impact on humans and the environment and to ensure that the overall influence (from raw material extraction to the end of use) is balanced.

Our main product (Brantho-Korrux „3in1“) is at the same time harmless enough that it can be used for small children‘s toys (EN 71 3, i.e. it does not produce any harmful substances in 38°C warm stomach acid) and effective enough that it provides corrosion protection according to DIN EN ISO 12944 as well as according to NORSOK specifications (for Atlantic drilling platforms).

Simultaneously it is classified according to the „Ü-sign“ (corrosion protection on steel structures) and easily falls below the strict limit values for indoor air (AgBB and others).

The corrosion protection effect is TÜV tested, the quality assurance is TÜV monitored and at the same time the organoleptic harmlessness is DEKRA tested.

Applicators can therefore be sure that our product has little impact on the environment and at the same time achieves high durability and it is precisely this combination that ensures particularly good sustainability.

Our customers applicate Brantho-Korrux for the preservation of values, for repairs, overhauls and maintenance. Mainly we supply 1K products (which avoids paint residues); coatings that dry in a wide temperature range without heat input (which avoids CO2 emissions); containers that can be 100% recycled (with no toxic or harmful residual adhesions inside); products that do not require extreme environmentally harmful pre treatments and which fall under unusually low water hazard classes and are not dangerous goods during transport.

In that way sustainable sustainability is not only a question of the CO2 balance, but consists of many pieces for an optimal overall context.

A few figures to concludes

Since the end of 2018, **100%** of the energy we use in the production of Brantho-Korrux (including lighting, IT, heating, administration, etc.) is CO2 neutral.

Over the last 25 years, we have been able to reduce the total energy consumption per 100 tons of coating by **45 %**

50 % of our company‘s land is largely left in its natural state: Meadow, bushes, pond, trees.

We have reduced our annual water consumption by **95 %** in 25 years.

In our production, **0 %** hazardous residues are produced. The amount of household like commercial waste and waste paper for recycling is less than **3%** of the production volume.

Almost **25%** of the vehicles on our parking lot are already hybrid or electric vehicles, about 33% of our employees come to work mostly by bicycle or public transport.

Further literature:

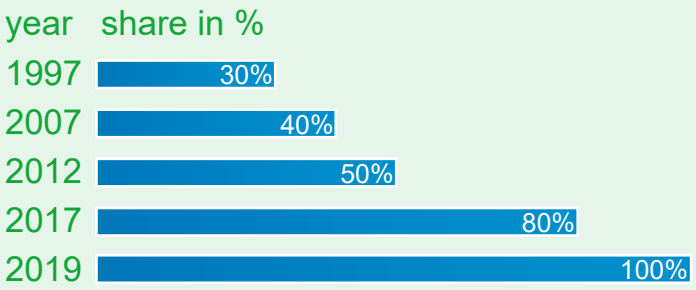
Small illustrated book: We have a friend who makes paint,
ISBN 978-3-00-048968-6

Small illustrated book: Mit Arnold fing alles an, ISBN 978-3-00-050474-7

Current EMAS environmental declarations of Branth Farben Fabrik KG

Brantho-Korrux technical data sheets and brochures

Grafic: share of CO2-neutral energy in the production of Brantho-Korrux (incl. heating, lighting, IT, administration etc.)



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