

Since 1910 Nickel has been refined on the site in Kristiansand in southern Norway. Norway had a rich tradition as a manufacturer of nickel even before 1910. In 1870 there were as many as 40 mines and seven melting plants in operation. Before the turn of the century, 75 % of global nickel production took place in Norway.

自 1910 年以来，镍一直在挪威南部克里斯蒂安桑的这个地方提炼。早在 1910 年之前，挪威就有生产镍的丰富传统。1870 年，有多达 40 个矿场和 7 个熔炼厂在运转。在世纪之交之前，全球 75% 的镍产量在挪威。

Production capacity has gradually been expanded to today's annual nickel capacity of approximately 92 000 tons. 生产能力已逐步扩大到今天每年约 92 000 吨镍的能力。

One of the world's biggest nickel refinery in the western world has a global reputation for the purity of the final product, but this is achieved whilst also being recognised as a top-tier operation in the resource sector that sets the standard for high performance.

作为西方世界最大的镍冶炼厂之一，该公司在最终产品的纯度方面享有全球声誉，但在实现这一目标的同时，它也被公认为资源行业的顶级企业，为高性能设定了标准。

Our Customer needed a product that could withstand the tough conditions of in their nickel electrolysis process. Yet meet the lifetime and performance guarantees required to continually produce high purity nickel in the facility in Norway.

我们的客户需要一种可以承受镍电解过程中恶劣条件的产品。然而，满足挪威工厂持续生产高纯度镍所需的寿命和性能保证。

THE CHALLENGE 所面临的挑战

Historically this process which has a high chlorine concentration used many exotic fibre types – some of which are no longer available to be used (such as fiberglass). So, the challenge was to find a fibre that was suitable but also not too cost prohibitive.

历史上，这一过程中氯浓度很高，使用了许多外来纤维类型-其中一些已不再可用(如玻璃纤维)。所以，挑战是找到一种合适的纤维，但又不会太昂贵。

Plus, this fibre had to be woven and finished to a certain specification in order to allow the nickel electrolysis process to work successfully and offer a sufficient length of time.

此外，这种纤维必须按照一定的规格进行编织和加工，以便镍电解过程能够成功地工作，并提供足够的时间。

Their aim was not only to scale up production but to upgrade to a higher manufacturing standard, for increased safety, efficiency, and energy savings. Hence, looking for a supplier who can address the below requirement and contacted Markert inc based on products, service, solutions, and reputation in the market.

他们的目标不仅是扩大生产规模，而且是升级到更高的制造标准，以提高安全性、效率和节能。因此，寻找能够满足以下要求的供应商，并基于产品、服务、解决方案和市场声誉联系我们。

Increase cloth service life 增加布料使用寿命

Increase liquor volume over cycle time 在循环时间内增液体的体积

Increase average cycle flows 增加平均周期流量

Maximise set point flows 最大化增加点的流量

THE SOLUTION 解决方案

By utilizing the Our's laboratory facilities and much testing we found that the optimum choice was a Modacrylic. As a consequence of these tests, an alternate media was identified and tested in the field. What was expected to take place, would see a stepwise change in media characteristics which could lead to the potential replacement of existing cloth.

通过使用我们的实验室设施和大量测试，我们发现最佳选择是 mod 丙烯酸。这些试验的结果是，确定了一种替代介质并在实地进行了试验。预计将发生的是，将看到媒介特性的逐步变化，这可能导致现有布料的潜在替代。

After working with European spinners to make the yarn we then set about weaving and finishing the final product – and eventually have produced our product 97651F.

在与欧洲纺纱机合作后，我们开始织造和整理最终产品——最终生产出了我们的产品 97651F

Initially, we supplied this in cloth on roll form to the site and they manufactured the electrolysis bags on-site themselves.

最初，我们把它以布卷的形式提供给现场，他们自己在现场制造电解袋。

This fabric has shown itself to be excellent in terms of performance and lifespan (approx. 10-12 months life) and has helped grow our reputation in this end user as a dependable solutions provider – which in turn has helped gain additional business in other parts of the plant with standard filter cloth media

这种织物在性能和寿命(约.10-12 个月的使用寿命),帮助我们在终端用户中建立了作为可靠解决方案提供商的声誉,这反过来帮助我们在工厂的其他部分获得了标准滤布介质的额外业务

Over time we have now taken to supply ready made finished electrolysis bags from 97651F and the volumes have been increasing as production has increased to make this account now worth in excess of €1 million per year for Markert Inc.

着时间的推移，我们现在已经开始从 97651F 供应现成的成品电解袋，随着产量的增加，数量一直在增加，使该帐户现在每年价值超过 100 万欧元我们的。

Whilst also keeping to our core principles of 同时也坚持我们的核心原则

SAFER – By reducing filter bag changes and introducing more environmentally acceptable fibres

更安全-减少更换滤袋，并采用更环保的纤维

HEALTHIER – Limiting operator exposure to a hazardous chemical environment

更健康——限制操作人员暴露在危险的化学环境中

PRODUCTIVE – Increasing performanc

生产力-提高关键过程的性能和盈利能力

Our On-time delivery performance is held in high esteem by this company and the trust is at such a level that we recently received orders for supply up to the end of 2023.

我们准时交货的表现受到这家公司的高度尊重，信任程度如此之高，以至于我们最近收到了供应到 2023 年底的订单。

The customer was very satisfied with our solution as its improved productivity, uptime, and reduced waste.

客户对我们的解决方案非常满意，因为它提高了生产力、正常运行时间并减少了浪费。

结果

其结果是建立了长期的客户/供应商关系，在过去的 10 年里，这对双方都是有益的，并将继续增长。

对于我们来说，这已经成为该公司最大的单站点终端用户之一。
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