

GLOBAL TRENDS ON TOOTHPASTE



FEATURING

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In terms of providing production capacity, improving production equipment and providing product stability as well as competitiveness, ProXES helps toothpaste manufacturers to achieve an intelligent, green, personalized and professional product.

1. Alex, could you please tell us a little bit about yourself and your experience in the health & personal care market?

I have been working with processing equipment for the pharma & cosmetics industry for more than 8 years. My previous job was with IKA where I worked as an Area Sales Manager for the China east region. I have worked with many different types of homogenizers, inline or batch system, and powder dispersing systems in the chemical and HPC industry, as well as with wet milling technology. My major customers are in the pharma, health & personal care and fine chemical industry. I understand the major processes of the products in those industries, especially for personal health products.

2. How has toothpaste consumption & the market in China changed over the last ten years?

In the past decade, with the rapid development of the market economy and the improvement of living standards, people's oral health awareness has been increasing. Toothpaste, as an indispensable daily necessity, has received more and more attention and has become a rather special daily consumer product. It is not a cosmetic, but similar to the management model of cosmetics. The quality, safety and efficacy of toothpaste products are brought into the management of the State Drug Administration with reference to ordinary cosmetics.

From the perspective of market share of segmented products, whitening toothpaste- which has the effects of refreshing breath and whitening teeth- now accounts for about 28%, followed by Chinese herbal toothpaste and anti cavities toothpaste, accounting for 21% and 15% respectively. With the another round of increased consumption by Chinese consumers, the growth of residents' income also drives the consumption of HPC products. Today, the demands

of young people and middle as well as high-income groups are more diversified. Medium and high-end toothpaste has gradually become a new consumption trend. Additionally, there is an ongoing centralization and specialization of toothpaste brands.

3. What are some of the global trends on toothpaste?

Functional toothpaste has gradually become a new choice for daily oral care. In addition to whitening toothpaste, cleaning dental products and functional oral health care products have attracted more and more attention from the market. For example, China BlueSky Group, LMZ, Colgate, Unilever and other companies have come out with relevant oral care products and concept such as aloe toothpaste and dendrobium toothpaste. Additionally, artemisia annua toothpaste and tricholoma matsutake toothpaste are also being studied.



Chinese herbal toothpaste has great potential. In recent years, the vast majority of patented toothpastes are based on the concept of using natural ingredients, such as plant extracts, mineral materials, animal extracts, biological enzymes, peptides, etc. The renewal of modern health concept provides a good opportunity for the development of traditional Chinese medicine. Chinese herbal toothpaste with Chinese traditional characteristics garners respect with its concept of green, natural, safe and unique efficacy. Under the guidance of the new concept of green and environmental protection, the development of Chinese herbal toothpaste has a good market prospect and long-term development potential.

Lastly, children's toothpaste has a bright future. Childhood is an important period of tooth development and to ensure children's oral health is the key to make them grow healthily. The calcification degree of a child's teeth is also different from that of adults. Thus it is easy to cause many disadvantages for children from the daily use of adult toothpaste. In recent years, various enterprises have invested heavily in the research and development of children's toothpaste, and the children's toothpaste market will certainly have a broader development prospect.

4. What are some particular toothpaste trends in China/Asia Pacific?

Chinese trends have been an increasing diversification of toothpaste products. Young consumers born in the 1990s have gradually become the main force of consumption, and their awareness of oral health and nursing awareness has gradually increased. Nowadays, toothpaste is not only used for the cleaning of the oral cavity, but has several features such as: leaving a fresh breath, whitening effect, hemostasis, anti-moth, fixation of teeth, repairing gums, antibacterial effect, anti-ulcer, anti-sensitivity, treating inflammation, removing dental calculus and smoke stains to name a few.

Additionally, R&D investment in the toothpaste industry is increasing. In response to different oral care requirements, oral care categories are constantly being refined. In recent years, from the perspective of the number of patent appli-

cations in the industry, the number of toothpaste patent applications in China have shown an overall growth trend. In 2018, the number of patent applications in the toothpaste industry in China reached 1,135.

Green production requirements are becoming more and more important. Companies are phasing out backward equipment and are further upgrading and transforming their production equipment. Furthermore, enterprises above designated sizes generally realize process automation or partial automation and realize real-time monitoring of the entire production process, precise control, and traceability of all products to ensure stable and reliable quality.

5. How did ProXES react to these trends and what processing solutions does it offer?

ProXES seized the opportunity and today actively participates in activities organized by various national dental industry associations to enhance the influence of the brand FrymaKoruma in the toothpaste industry. In terms of providing production capacity, improving production equipment and providing product stability as well as competitiveness, we help toothpaste manufacturers to achieve intelligent, green, professional and personalized product production lines.



6. What are the main points to take into consideration when producing toothpaste? What does one need to pay special attention to?

The process of making toothpaste is divided into the steps of metering and feeding, gel making, paste kneading, grinding, vacuum degassing and aging. All steps are completed in a paste making machine and need to be considered in the production process. There are several phenomena which could occur that need to be taken into consideration.

The so-called desizing phenomenon or peeling phenomenon of toothpaste is one of them: due to the mutual attraction and bonding enhancement between the micelles, the coating water in the alternating network structure of the toothpaste colloid is gradually drained out of the paste, causing the paste to lose water slightly and lose its adhesion to the wall of the toothpaste tube or the wall of the production equipment phenomenon. If the dosage can be adjusted according to the viscosity of the glue, the concentration of the micelles in the paste can be reduced, the coagulation ability between the micelles can be eased, or the amount of powder can be increased, and the stock price effect of the powder can be used to slow down the occurrence of the separation phenomenon.

Another phenomenon is the thinning phenomenon: the adhesive (CMC) in the paste is decomposed and thinned by the biodegradation of the viburnum, which can lead to degumming in severe cases. It is caused by operating equipment, such as in the liquid feed and paste making equipment, when the power is suddenly cut off, the vacuum tube sucks in water.



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Due to chemical reactions or enzymes, the paste loses all the glue, and the solid and liquid phases are severely separated. Not only does the coating water get out of the paste, even the firmly bound water will separate. This so-called degumming phenomenon can be counteracted by adjusting the amount of powdery friction agent.

What also needs to be taken into account are the viscosity and thixotropy of toothpaste- The structural network of structural viscosity is destroyed when heated or pressurized, and the viscosity decreases; but after standing for a period of time or experiencing a drop of temperature, the structural network recovers and the viscosity returns to normal. This is the touch of the paste. To maintain the thixotropy, the components of the hand-operated structural net should have the ability to recover quickly when the destructive force is eliminated after the structure is destroyed, and the structural conditions are easy to loosen. In the toothpaste production process, we must pay attention to observe the changes in the elasticity, viscosity and plasticity of the paste when it is affected by a certain degree of external force.

7. When interested in processing toothpaste, what would you recommend to a start-up, to a mid-size company trying to enter the market and a global player who wants to enhance productivity and output?

Different types of enterprises have common requirements for efficient treatment processes and experience. The FrymaKoruma Dinx vacuum paste making machine has a processing capacity of 10L to 3,000L and more in the laboratory. With rich experience in different types of toothpaste processing, we provide customers with good quality assurance and best in class after-sales support.

8. How can ProXES support these companies in the process?

We understand the real needs of our customers and are able to combine their ideas into customized production equipment. While doing so, we provide customers effective advice and support in terms of formula exploration, technological processes and new trends in the industry.

9. How has COVID-19 impacted the global market?

COVID-19 has affected the economic situation of many countries in the world to varying degrees. The epidemic has increased the public's health awareness unprecedentedly and has profoundly changed people's lives and hygiene habits. Wearing masks for a long time restricts air circulation, making people more aware of bad breath problems and ultimately driving the sale of fresh air products such as toothpaste, mouthwash, and toothpaste. Every historical disaster is compensated by historical progress. During this pandemic, people have begun to reassess the value of health and began to focus on the upgrade of health consumption.

Data shows that since March, the per capita consumption of oral care products in all age groups has risen across the board, demand has been continuously released, and the oral health market has great potential.

10. How and with whom do I get in touch if I want to know more about the toothpaste processing possibilities that ProXES offers?

ProXES has branches and liaison offices in many countries around the world. Through our website www.proxes.com, visitors can easily contact sales or customer service contact persons for their region. Our Chinese subsidiary is set up in Minhang District, Shanghai, and even has an independent laboratory to meet customers' small test needs.

