

LBXTRA and Freestyle: technology for large sizes

LBXTRA和Freestyle：适用于大规格瓷砖生产的先进技术

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近半个世纪以来，LB一直与世界领先的瓷砖制造商合作，投资专门针对行业需求量身定制的工艺、技术、机械和工厂解决方案的研发。这些产品包括尺寸更大、更厚、产量更高、生产更灵活独一无二、难以复制，而且运维成本低、生产布局小，对环境影响也较小的产品，其技术和服务与智能工厂（工业4.0）的原则相适应。

多年的努力使LB能够在其新的技术中心安装最新的技术解决方案，使

For almost half a century LB has been collaborating with the world's leading ceramic tile manufacturers and investing in research and development of technical, technological, mechanical and plant solutions tailored specifically to the industry's needs. These include products that are unique, exclusive and difficult to replicate, often in ever larger sizes and large thicknesses; higher productivity and flexibility; lower operating and maintenance costs, smaller production layouts and a lower environmental impact; technologies and services that are compatible with the principles of the Smart Factory (Industry 4.0). These efforts have led LB to install the latest technological solutions in the new LB Technology Centre, which has been completely upgraded with two production lines. The Centre can perform the following kinds of testing:

- **Migratech 4.0:** the revolutionary microgranulation technology capable of producing granules suitable for the shaping of ceramic tiles or panels of any kind, bringing enormous savings in terms of operating and maintenance costs and a significant reduction in environmental footprint.
- **Divario:** the latest press feeding solution for all kinds of porcelain products, both full-body and decorated in line.
- **Freestyle and LBXTRA:** the only technology in existence for colouring and decorating powders using an aesthetic effect kit, which is also suitable for large size tiles; the wide range of aesthetic solutions include the "through vein" effect for extra-thick full-body products.

技术中心得到完整升级，并拥有两条生产线。新中心可以完成以下几种检测：

- **Migratech 4.0:** 革命性的微粉技术，能够生产出适用于瓷砖或任何类型面板成型的粉料，在运维成本方面节省大量成本，并大大减少了对环境的影响。
- **Divario:** 适用于各种瓷质砖的最新压机布料解决方案，包括通体瓷砖和装饰性瓷砖。
- **Freestyle和LBXTRA:** 是现有唯一使用成套美学效果着色和装饰粉料的技术，同样适用于大规格瓷砖；这套广泛的美学解决方案涵盖超厚通体产品的“纹理脉络”效果。
- **AST4 PLUS和STAR:** 用于预防和主动维护设备和装置的监控软件，充分利用了虚拟和扩充实境的潜力。

在过去的2-3年中，LB在全球已安装了约40条新生产线，用于生产规格高达1.6×3.2米，厚度高达3厘米的陶瓷大板和厚板。

事实上，LB已经为世界各地（阿根廷、巴西、埃及、印度、意大利、波兰、俄罗斯、西班牙、土耳其、乌克兰和美国）80%以上的工厂供应这些生产线，彰显了LB作为瓷砖制造商关键合作伙伴的重要地位。特别是，LB的Colorboost、Freestyle和LBXTRA技术保证了成品具有独特和高度创新的美学效果。



• **AST4 PLUS** and **STAR**: cockpit software for preventive and proactive maintenance of machines and plants which exploits all the potential of virtual and augmented reality. In the last 2-3 years around 40 new lines have been installed worldwide for the production of ceramic panels and slabs in sizes of up to 160x320 cm and thicknesses of up to 3 cm. The fact that it has supplied more than 80% of plants feeding these lines all over the world (Argentina, Brazil, Egypt, India, Italy, Poland, Russia, Spain, Turkey, Ukraine and the USA) underscores LB's role as the manufacturers' key partner. In particular, its Colorboost, Freestile and LBXTRA technologies guarantee finished products with unique and highly innovative aesthetics.

› Migratech 4.0

Production of large ceramic panels and slabs requires special treatment of the granule prior to forming in terms of flowability and particle size. The innovative Migratech 4.0 technology is the ideal solution for guaranteeing perfect compaction or pressing of the granule and ensures very high savings in production line management and operation, as well as cutting atmospheric CO2 emissions by around 60%. The process, plant and method are all patented and are currently undergoing final technological and plant engineering testing in the LB laboratories and on the industrial production lines of world-leading ceramic tile manufacturers. The innovative nature of Migratech 4.0 technology is demonstrated by the funding received by LB Group from the Emilia-Romagna regional government and the Italian Ministry for Economic Development.

› Freestile and LBXTRA

The Freestile and LBXTRA technologies have been developed to meet the needs of the most innovative ceramic tile producers. They can be used for the production of tiles of various thicknesses and any size, including large panels and slabs, and are capable of creating unique, exclusive and non-replicable products. Advantages include greater production flexibility, optimisation of the plant layout and lower environmental impact. The use of these technologies allows for real-time colour digitisation to supply the various kits required for creating aesthetic effects on large-size panels.

Adopting these solutions concurrently allows for the production of full-body double loading and single loading products with a "through-vein" effect or double and single loading products to be used as a base for subsequent supplementary inline applications/finishes. X

› Migratech 4.0

在生产大板的过程中，需要在制粉阶段对陶瓷粉料的流动性和粒径进行特殊处理。创新的Migratech 4.0技术是保证粉料均匀分布、坯体致密度更高理想解决方案，并能够高度节省生产过程中的管理和运营成本，同时能够将大气中二氧化碳排放量削减60%左右。

相关工艺、设备和方法均已获得专利，目前正在LB实验室和世界领先的瓷砖生产商的生产线上进行最终的技术和设备工程测试。LB集团从艾米利亚-罗马涅地区政府和意大利经济发展部获得的资金支持使Migratech 4.0技术的创新性得以面世。

› Freestile和LBXTRA

Freestile和LBXTRA技术的开发可用以满足最具创新性的瓷砖生产商的需求。它们可用于生产各种厚度和任何规格的瓷砖，包括陶瓷大板和厚板，并且能够制造独一无二且不可仿制的产品。其优点包括：具有更高的生产灵活性、最优化工厂布置和相对较低的环境影响。

这些技术使实时数字化色彩管理成为可能，为大板提供各种成套创造性美学效果。

同时采用这些解决方案可以生产具有“通透”效果的通体二次布料和一次布料产品，或后续线上应用/加工作为辅助基础的二次和一次布料产品。 X

