

产品技术说明书—流槽

Technical Data Sheet – Launder

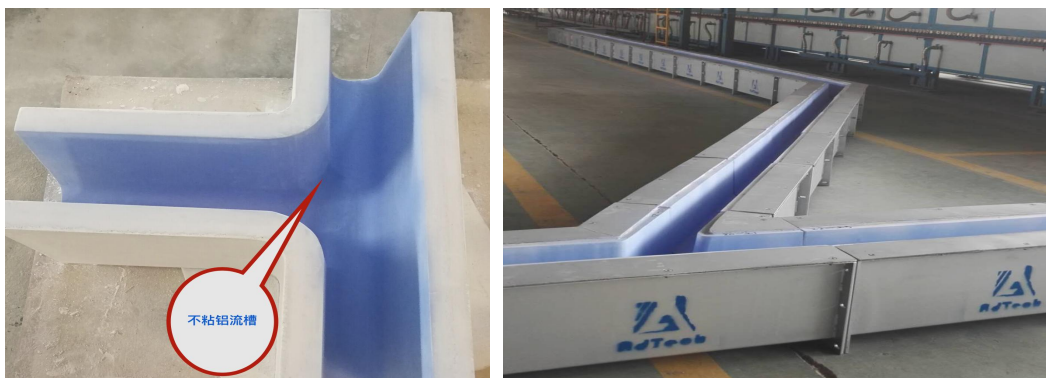
AdTech（艾文斯）是以生产铝合金铸造行业的高温过滤净化新型材料为主，集研发、生产、销售、服务为一体的中外合资企业。公司自2012年起研发生产整体流槽，除气设备和板式过滤设备一体化服务于高精铝合金铸造生产，得到了市场好评。

AdTech is a Sino-foreign joint venture that mainly produces new materials for high-temperature filtration and purification in aluminum alloy casting. We concentrate on R&D, production, sales and service. AdTech has developed and produced integrated launders, integrated degassers, and plate-type filters to serve high-precision aluminum alloy casting production since 2012, which has gotten some favorable comments from the market.

一、产品介绍 Product Description

AdTech(艾文斯)整体流槽设备衬体采用新型莫来石刚玉、高硅氧2.0或高硅氧2.3材料，拥有超长寿命、耐腐蚀力强、不粘铝、不污染铝液的性能，能满足生产高附加值、高技术性能要求的铝产品生产需要。整体流槽设备安装于炉子和铸造机之间，它有铝液输送和保温的双重功能。主要用于适用于航空、交通等铝合金精密铸造熔铝炉、净化炉、铸造平台、炉外除气及过滤设备之间的铝液输送。用它生产的产品可以适用于计算机硬盘、微米的铝箔毛料、印刷用PS板基、制罐料、喷气式涡轮发动机风扇叶等。

AdTech integrated launder's liner adopts new corundum-mullite, high silica 2.0 or high silica 2.3 material, which has the properties of super long lifetime, strong corrosion resistance, non-sticking aluminum, and no pollution to molten aluminum. It can meet the needs of high value-added and high technical performance required aluminum products. Integrated launders is installed between the furnace and the casting machine, and it has dual functions of transportation and heat preservation. It is mainly for aluminum liquid transportation between melting furnaces, purification furnaces, casting platforms, out-degasser and filter of high precision alu-alloy of aviation and transportation, etc. Products made by the material can be applied to computer hard disks, micron-grade aluminum raw foil, PS board used for printing, can material, fan blade of jet turbine engine, etc.



二、技术参数 Technical Parameter

2.1 尺寸规格 Specification

项目	单节长度	保温盖	特殊规格
标准	≤1000mm	200-500mm	来图定制

Item	Single section length	Insulation cover length	Special specification
Standard	≤1000mm	200-500mm	Customized as drawing

2.2 物理指标 Physical Index

材质	体积密度 (g/cm ³)	耐压强度 (MPa)	抗折强度 (MPa)	热导率 (W/K·m)	最大操作温度 (°C)
莫来石刚玉	2.47	≥50	≥5	1.5	1000
高硅氧 2.0	2.11	≥40	≥5	1.23	1000
高硅氧 2.3	2.38	≥80	≥10	1.5	1000

Material	Density (g/cm ³)	Compression strength (MPa)	Flexural strength (MPa)	Heat conductivity (W/K·m)	Maximum operating temperature (°C)
Corundum-mullite	2.47	≥50	≥5	1.5	1000
High Silica 2.0	2.11	≥40	≥5	1.23	1000
High Silica 2.3	2.38	≥80	≥10	1.5	1000

三、产品特点 Product Performance

1、整体流槽保温性能好，设计合理，延长使用寿命；

Good thermal insulation performance, reasonable design and extended service life;

2、整体流槽采用高贵熔融材料整体成型，尺寸精度高；

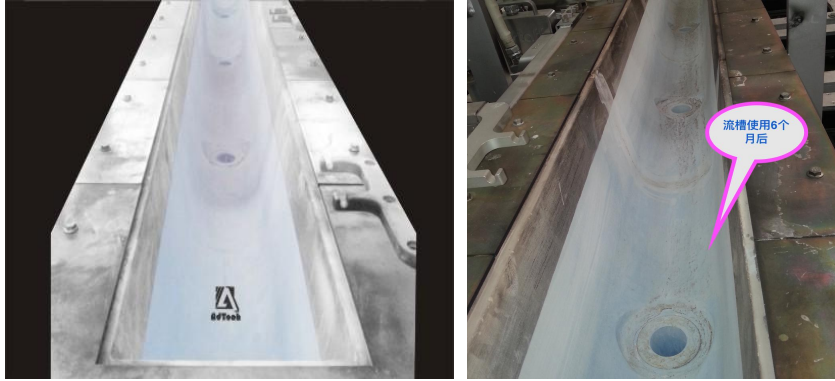
Integrally formed with valuable molten materials, with high dimension accuracy;

3、整体流槽内衬对铝，锌，镁合金的耐腐蚀性强，增强了熔融金属转运设备的使用效果，延长了特殊合金使用寿命；

Strong corrosion resistance to aluminum, zinc and magnesium alloys, which enhances the efficiency of molten metal transfer equipment and extends the lifetime of special alloys;

4、整体流槽使用过程中金属液体温降做到每米 2°C 内、耐冲刷、耐热震、表面光滑。

Metal liquid within 2°C drop per meter, resistant to erosion & thermal shock, and smooth surface.



四、使用说明 Usage

- 1、对应图纸构造，安装流槽，保证整体流道洁净、无破损、无缝隙；

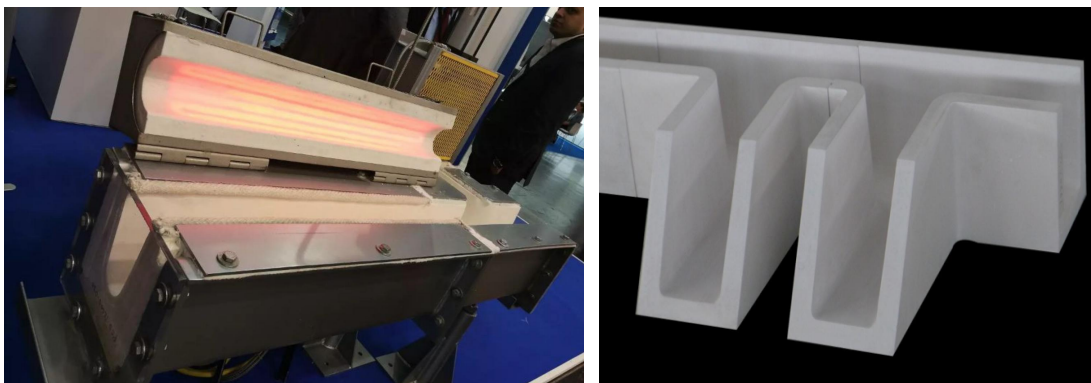
Corresponding to the drawing structure, install the runner to ensure that the overall runner is clean, free of damage and no gaps;

- 2、均匀预热已安装规范的流道，匀速升温，安全高效使用；

Evenly preheat the installed standard flow channel, heat up at a uniform speed, and use it safely and efficiently

- 3、箱体流槽若不具备电加热烘烤条件，只得用火焰烘烤。其关键一是控制火焰温度，二是避免火焰直接烧烤，避免局部受热产生的热应力致衬体、管体、盘体或过滤板炸裂。

If the launder does not have the conditions for electric heating and baking, it can only be baked with flame. The key point is to control the temperature of the flame, and the second point is to avoid the direct flame bake. The thermal stress caused by the partial heating may cause a crack in the lining, pipe, disc, or filter plate.



五、常见问题及处理措施 Common problems and solutions

5.1 开裂 Crack

主要原因：①选材不合理；②外形设计及安装不合理，③现场烘烤不合理；④运输中碰撞造成内部组织损坏。

Main reasons: ① unreasonable material selection; ② defect design and wrong installation ③ unscientific on-site baking; ④ internal structure damage caused by collision during transportation.

处理措施: ①对于不同铝合金采用适合材质; ②设计安装按照应力最小化原则设计, 安装流槽时背衬于内胆(流槽)接触受力均匀; ③现场有合理烘烤曲线, 杜绝火焰直接接触和超温烘烤, 并严格执行; ④安装使用前对运输有损伤产品杜绝使用。

Treatment measures: ① Use suitable materials for different aluminum alloys. ② The design and installation are designed according to the principle of stress minimization. When installing the launder, the contact force of the backing on the liner should be uniform. ③ There is a reasonable baking curve on site which need be strictly implemented. Flames contact directly and over-temperature baking are not permitted. ④ Before installation and use, do not use the products damaged during transportation.

应急处理: 现场出现裂纹采用修补剂修补, 如果裂纹不夹铝, 不扩展时可以不给予修补, 继续使用。

Emergency treatment: Cracks appearing on site should be repaired by the healant. Cracks do not need repair and it can keep used if there is no clapping or extending.

5.2 沾铝、剥落 Stick aluminum & Peel off

主要原因: ①材料不能满足客户工况条件, 例如 4、5、7 系等特殊合金; ②客户工艺调整, 铝成分变化造成铝液中渣含量成分异常。

The main reasons are: ①The material cannot meet the customer's working conditions, special alloys as 4, 5, and 7 series; ②The customer's process adjustment and the change of aluminum composition cause abnormal slag content in the molten aluminum.

处理措施: ①选材合理, 满足抗侵蚀材料; ②客户个别工艺异常, 恢复正常即可。长期工艺变动, 需要通知我公司技术部新设计加工。

Treatment measures: ① Reasonable selection of materials to meet erosion-resistant requirement; ②If the Customer's process is temporarily abnormal, get back to normal. As for long-term process changes, it is necessary to notify AdTech's technical department for new design and processing.

保养处理: 每炉次清铝后, 请喷涂氮化硼涂料, 涂料质量要保证。

Maintenance treatment: Please spray boron nitride coating after each cleaning, and the quality of the coating must be guaranteed.

5.3 冲刷坑 Scoured hole

主要原因: ①材料选型不当, 材料抗热冲击能力差。②清理不及时, 形成炙烧损坏内衬釉面。

Main reasons:① Improper material selection and poor thermal shock resistance. ②Cleaning is not done in time, and causing burning damage to glaze of lining.

处理措施：需用耐高温冲击性材料加工内衬和每炉次清理干净涂料维护后使用。

Treatment measures: The lining should be processed with high thermal shock-resistant materials and working with coating maintenance after cleaning of each casting.

应急处理：冲刷坑严重时，特种修补材料修补烘烤后可继续使用。

Emergency treatment: When scoured hole is serious, it's able to continue using after special repair material maintaining and baking.

六、包装、存储 Packaging& storage

6.1 包装 Packaging

a、根据产品尺寸，设计木箱尺寸，木箱内侧下面需用泡沫板铺垫。产品之间用泡沫板隔开，拉伸膜固定，底部用泡沫板防护，产品和木箱之间用泡沫、泡体边角料等填充，且开口朝下。塑钢带连底座包装加固，塑钢带包装处要护角保护；

According to the size of the product, wooden case is designed, and the inner side of the wooden case needs to be cushioned with foam board. The products are separated by foam board, fixed by stretch film, laid upside down, bottom is protected with foam board, and product& wooden case are filled with foam, foam scraps, etc. Plastic-steel belt reinforcing is together with base packaging, and the corner protection is required;

b、含铁壳产品：用拉伸膜固定，泡沫板加木板隔开，塑钢带连底座包装加固，包装处护角保护。

Products with iron shell: fixed with stretch film, separated by foam board and wooden board, reinforced by plastic-steel belt and packaging together with base, and corner is protected.



6.2 存储 Storage

保存于通风干燥环境中，谨防受潮，不要置物于其上。

Store in a ventilated and dry environment, prevent moisture, and do not place objects on it.