



SCIEN ROLLER



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企业简介

COMPANY
INTRODUCTION

三英精细材料有限公司成立于1996年，是三英集团旗下专业生产陶瓷辊棒的企业。在二十多年的发展历程中，三英辊棒始终秉承“以技术创新为生存之本”。力求以创新谋发展，以创新服务用户。目前拥有实用新型专利2项，外观设计专利9项，为当下陶瓷行业个性化生产的需求提供了强有力的保障。

近年来，以三英S98辊棒为龙头的多款烧成带、急冷带辊棒，以其稳定的超高温强度和杰出的热稳定性能得到终端用户广泛的认可和信赖。

Established in 1996, Scien Fine materials Co.,Ltd. specialized in manufacturing Ceramic Roller under SCIEN Group. During more than 20years' development, Scien has always been insisting on independent technology innovation. In order to meet the changing market demands, Scien have gained 2 patents on utility model, 9 patents on roller appearance designed base on the end users' working condition.

In the recent years, with the key products of S98, a complete range of Scien roller in firing and fast cooling zone have been approved and trusted by the end users with their super high bending strength and stable working performance.

三英辊棒 8大优势

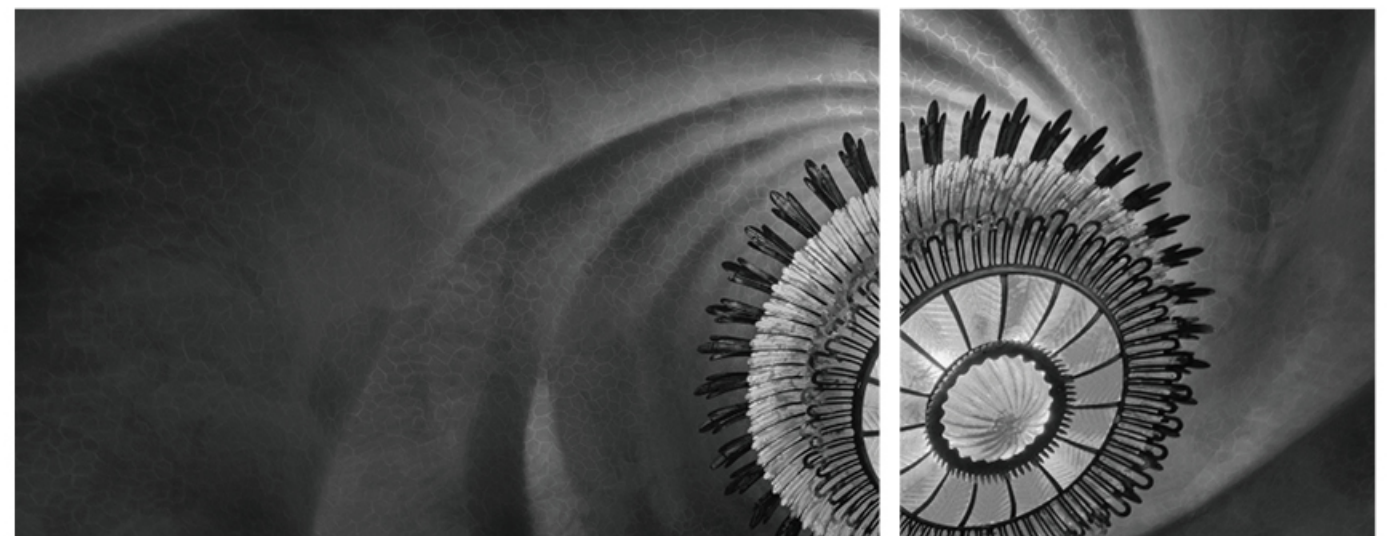
SCIEN ROLLER
EIGHT SPECIALTIES

优异的耐急冷急热性能。
Excellent thermal shock resistance

高效的交货期
Fast delivery

专业的个性化辊棒定制
Professional roller customized

- 产品系列多样化、外观设计合理化，全方位满足客户的需求
Diversified categories, reasonable shape designed and customized requirements
- 同行业中最好的高温强度
The most outstanding high temperature bending strength in this field
- 先进的生产设备和高度合理化的生产工艺。
The most advanced equipment and reasonable production technique
- 经验丰富的生产管理和技术团队。
Rich experienced team on production management and technique
- 完善的产品质量监控和跟踪。
Complete quality control and tracking



三英S93 (A) 高温辊棒

HIGH TEMPERATURE ROLLER OF SCIEN S93(A)

三英辊棒S93型高温辊棒是三英最受欢迎的高端辊棒产品之一。它采用了国内最先进的配方原料，几乎不含任何玻化成分的高温耐火材料粘结剂，低孔隙率和渗透性；具有优异的抗热震性及高温强度，最适用于宽体窑，高速和负载大的窑炉。经过十多年以来终端客户的使用反馈证明，S93型高温辊棒性能稳定、性价比超高，能够最大限度地保证出砖平整，提高成品率。

With years' researched and developed, Scien S93 is a high value-added series roller forming by the most advanced technology in China. Merely without any crystallized high temperature adhesive, S93 series roller has the excellencies of lower porosity and penetrability, super high thermal shock resistance and very stable performance in working high temperature. S93 is the most suitable roller for wide-body kiln with higher rotation speed and heavier loaded condition. And it is proved that S93 roller has effectively

基于市场对于个性化瓷砖产品生产的需求，三英辊棒研发团队顺势而为，在S93辊棒的基础上根据客户的实际生产条件成功升级S93A型产品。S93A系列产品不仅拥有S93产品优异的热稳定性能，还具备更高的抗折强度。此外，由于辊棒表面致密度高，不易被低溶物渗透，S93A产品还具有良好的抗腐蚀性能。

solved the firing problem in roller kiln, which ensured the stable tile transfer and increase the productivity.

Base on the increasing demand on the tile individuality, Scien R & D team has upgraded S93 roller into "A" series with much higher bending strength and better thermal shock resistance. Thanks for the higher bulk density and anti-permeable, S93A roller has excellent anti-corrosion characteristics.

		S93	S93A
物理性能 Physical Properties	密度 Bulk Density (g/cm ³)	2.7 ~ 2.8	2.8 ~ 2.9
	抗折强度 (常温) Bending Strength (MPa)	≥65	≥70
	抗折强度 (高温) 1350°C Bending Strength (MPa)	≥46	≥50
	最高使用温度 (°C) Max Working Temperature(°C)	1350	1350
化学成分 Chemical Composition	Al ₂ O ₃ (%)	75 ~ 77	75 ~ 77
	ZrO ₂ (%)	2.5 ~ 3.0	2.6 ~ 3.3
	SiC (%)		

三英S98 (A) 新型超高温辊棒

SCIEN SUPER HIGH TEMPERATURE ROLLER S98 (A)

三英S98新型超高温陶瓷辊棒是一款专门为生产全抛釉产品设计的辊棒，非常适合国内宽体窑、超大负荷、高产量生产环境。该系列辊棒采用国外进口的原材料，精选最优化的原材料级配，在1700度的温度下烧制而成。抗折强度可高达80兆帕以上，S98辊棒蠕变系数小、耐腐蚀，具备非常优异的耐急冷急热性能。完全能够实现不降温换棒，保证超负荷生产条件下的平稳出砖。该系列辊棒投入市场4年多来，获得了所有终端用户的一致认可和信赖，为目前国内外品质最高端的产品之一。

三英S98A是三英研发团队针对目前高负荷生产环境下量身定制的辊棒。该款辊棒不仅拥有目前行业内最高的抗折强度（90兆帕以上），还具备杰出的耐急冷急热性能。通过减少辊棒表面的气孔率，提高辊棒的致密度，S98A辊棒能更好的阻止腐蚀性气体等的侵蚀，大大延长了辊棒的寿命。

Scien S98 super high temperature roller designed for producing full casted porcelain tile. S98 is very suitable for wide body kiln, heavy load and high capacity working condition. Manufactured with high quality and the best optimized category raw materials from oversea, S98 roller fired in 1700°C. The bending strength of this roller can reach more than 80MPa, which is the highest bending strength among all the roller suppliers. With the lower creep coefficient, anti-corroded, and excellent thermal shock resistance, S98 roller remains intact in the test from 1350°C to cold water. Currently, S98 roller has already received approval by all the end users, which become the most distinguished products in all roller suppliers.

Upgraded from S98, S98A combines much higher bending strength on more than 90MPa, and excellent thermal shock resistance. With reducing the apparent porosities and increasing bulk density, S98A roller can avoid being corroded, which extend the life-time of the roller.

		S98	S98A
物理性能 Physical Properties	密度 Bulk Density (g/cm ³)	2.9 ~ 3.0	3.1 ~ 3.3
	抗折强度 (常温) Bending Strength (MPa)	≥80	≥90
	抗折强度 (高温) 1350°C Bending Strength (MPa)	≥55	≥65
	最高使用温度 (°C) Max Working Temperature(°C)	1400	1400
化学成分 Chemical Composition	Al ₂ O ₃ (%)	75 ~ 80	80 ~ 82
	ZrO ₂ (%)	5.0 ~ 5.6	5.0 ~ 5.6
	SiC (%)		



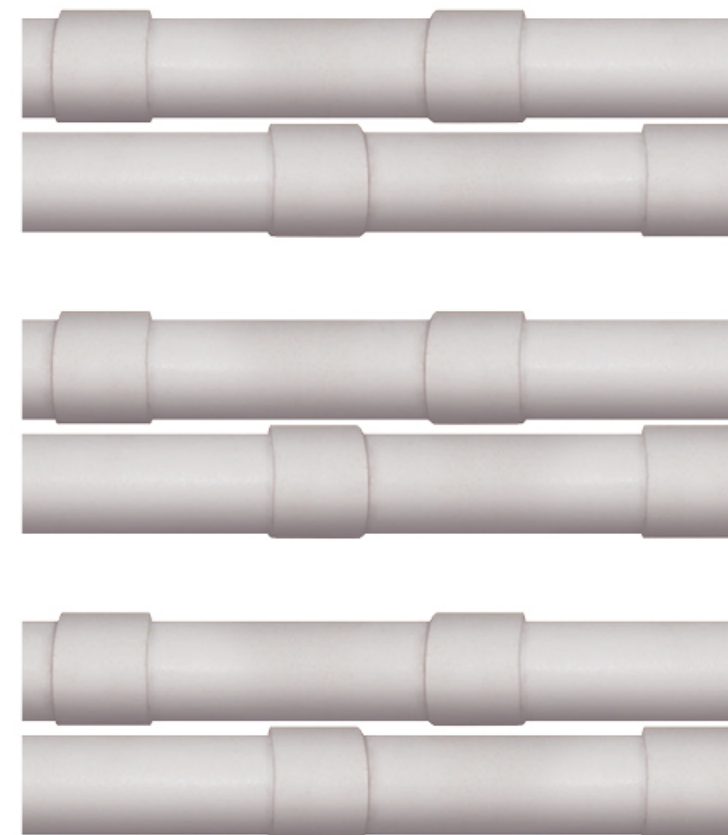
三英R97环形冷却带及预热带辊棒 SCIEN R97 RING ROLLER FOR FAST COOLING AND PREHEATING ZONE

R97环形辊棒是三英辊棒2014年的又一力作。通过环形独特的外观设计和使用时的合理配比，减少瓷砖与辊棒的接触面，使瓷砖在窑炉中能够迅速冷却、成型，提高瓷砖的优等品率。该系列辊棒在预热带的表现同样优异。基于该辊棒的独特外观设计，该系列辊棒可以根据瓷砖尺寸的大小调整走砖的频率，从而解决预热带碰砖和走砖不齐等问题，提高瓷砖的优等品率。由于该系列辊棒采用的高端原料与砖坯配方相近，强度超高，是生产大规格薄板砖的首选。

Scien R97 roller is one of the new and patented products in 2014. Through unique ring designed and reasonable arrangement in the application, R97 rollers can reduce the touch between the tile and rollers, which help the tiles cooling and forming faster and increase the first graded tiles. R97 roller also has a very excellent performance in preheating zone. Because of the unique design in roller surface, the R97 roller can adjust the tile transfer speed according to the tile dimension, which solve the tiles being touch to each other and deformed, increasing the first graded tile. Similar to the tile body, with the higher quality raw materials of Scien R97 roller is the most suitable rollers to produce large dimension slabs.

使用说明: 为了确保该系列辊棒发挥最大的作用，该辊棒在使用时必须A、B棒配对使用。

(Usage manual: In order to ensure the ring roller perform perfectly, the roller has to apply with paired A and B.)



三英FH93堇青石结合碳化硅急冷带辊棒

SCIEN FH93 SiC COMBINED CORDIERITE COOLING ROLLER

拥有专利技术的三英FH93碳化硅结合堇青石复合辊棒是三英团队经过数年的研发和实践生产出来的又一拳头产品。该系列辊棒采用国内外高端原材料，颗粒状分布的原料增加了辊棒的强度，加速了辊棒表面的温度挥发，避免辊棒在使用中出现弯曲，延长辊棒的使用寿命。

With many years R & D and our own patent technology, Scien has successfully produced FH93 SiC combined Cordierite cooling roller. Adopt with higher quality raw materials, the particle distribution of SiC composition not only increase the bending strength, but also fasten the temperate cooling on the roller surface, which avoid the roller bend and extend the life time of the rollers.

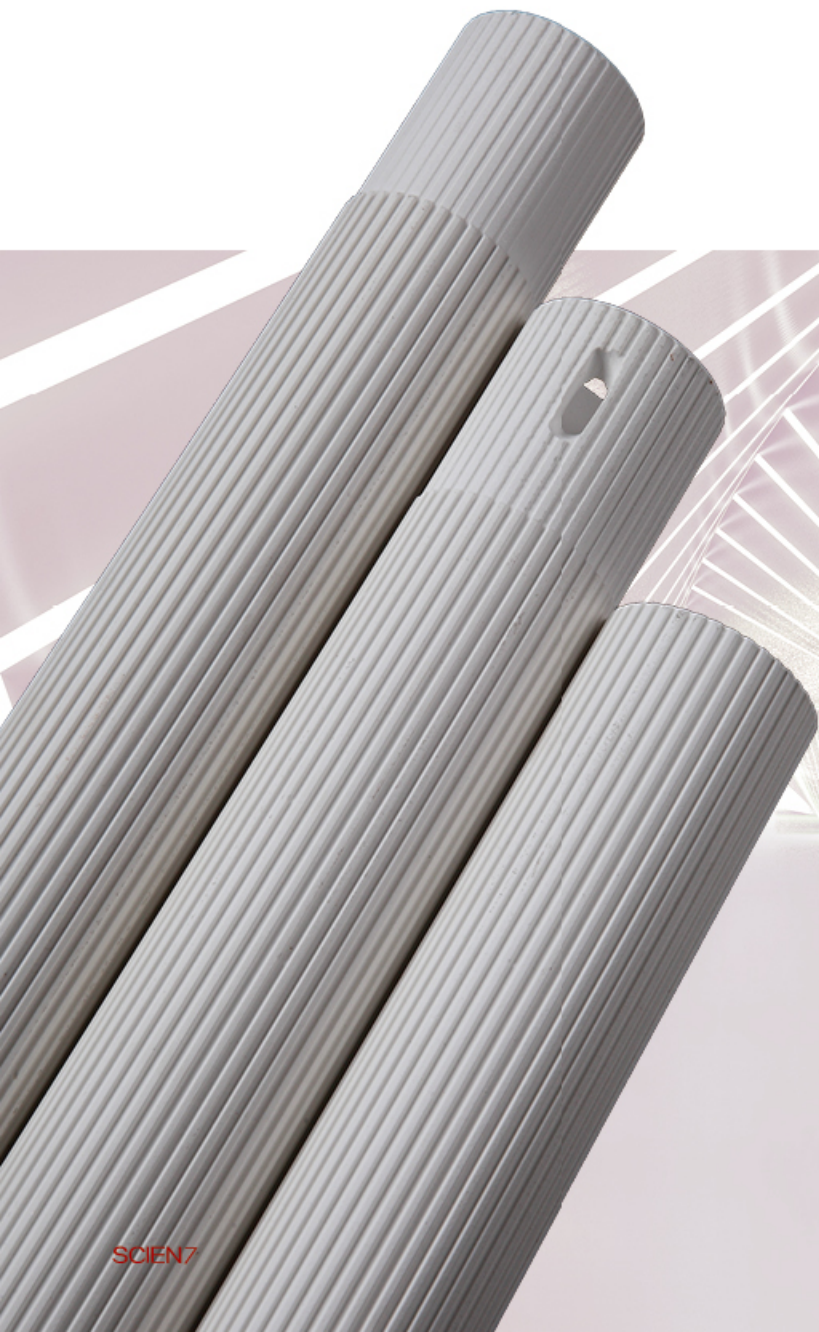
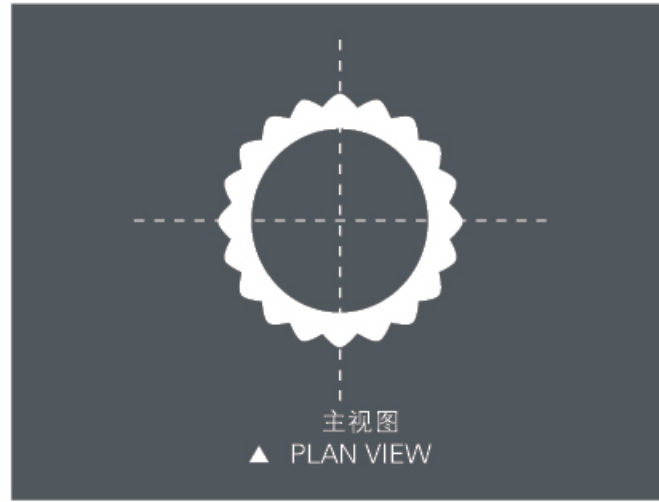
		FH93
物理性能 Physical Properties	密度 Bulk Density (g/cm ³)	2.3 ~ 2.5
	抗折强度 (常温) Bending Strength (MPa)	≥40
	抗折强度 (高温) 1350°C Bending Strength (MPa)	≥45 (1100°C)
	最高使用温度 (°C) Max Working Temperature(°C)	1100
化学成分 Chemical Composition	Al ₂ O ₃ (%)	40 ~ 42
	ZrO ₂ (%)	4.7 ~ 5.0
	SiC (%)	40 ~ 50

系列 Series	产品性能 Physical Properties				化学成分 Chemical Composition		
	密度 Bulk Density (g/cm ³)	抗折强度 (常温) Bending Strength (MPa)	抗折强度 (高温) 1350°C Bending Strength (MPa)	最高使用温度 (°C) Max Working Temperature(°C)	Al ₂ O ₃ (%)	ZrO ₂ (%)	SiC (%)
R97	2.8 ~ 2.9	≥75	≥50	1400	76 ~ 78	5.0 ~ 5.5	

三英CW93急冷带齿形辊棒 SCIEN CW93 TEETHED ROLLER

三英齿形辊棒结构特别，抗弯强度超高，特别适用于辊道窑的急冷区域。其与众不同的外观设计避免了辊道窑急冷带由于温差大而造成辊棒的弯曲和折断，保障了产品出砖整齐。

Scien teathed roller has unique appearance and, since the roller manufactures with special raw materials, the bending strength of this roller is extremely high. Scien teathed roller is customized for fast cooling zone, and its unique structure avoid the roller bend and crack due to big difference of airflow in fast cooling zone, which ensure the tile transfers evenly.



		CW93
物理性能 Physical Properties	密度 Bulk Density (g/cm ³)	2.7~2.8
	抗折强度(常温) Bending Strength (MPa)	≥65
	抗折强度(高温) 1350℃ Bending Strength (MPa)	≥46
	最高使用温度(℃) Max Working Temperature(℃)	1350
化学成分 Chemical Composition	Al ₂ O ₃ (%)	75~77
	ZrO ₂ (%)	2.5~3.0
	SiC(%)	

弧形辊棒

ADJUSTED ROLLER HX93

自2007年以来，三英公司生产的弧形辊棒是中国行业当中唯一获得两项国家实用新型专利生产企业。它的广泛使用彻底解决了陶瓷企业宽体窑、超长窑、负荷重、走砖乱、砖变形等问题，实现了高效节能、清洁生产，为国内填补了空白。

With the R & D of adjusted roller, Scien company is the only one enterprise who gained two national utility patents since 2007. Its widely application solve the problems of tile overlap, tile running disorder and tile deformation inside super wide-body kilns and super long kilns. The production of adjusted roller makes the eco-efficient come true, and meets the market requirements.

专利 PATENTS

外观设计专利号: ZL 2007 3 0007327.2
Design patent NO. ZL 2007 3 0007327.2

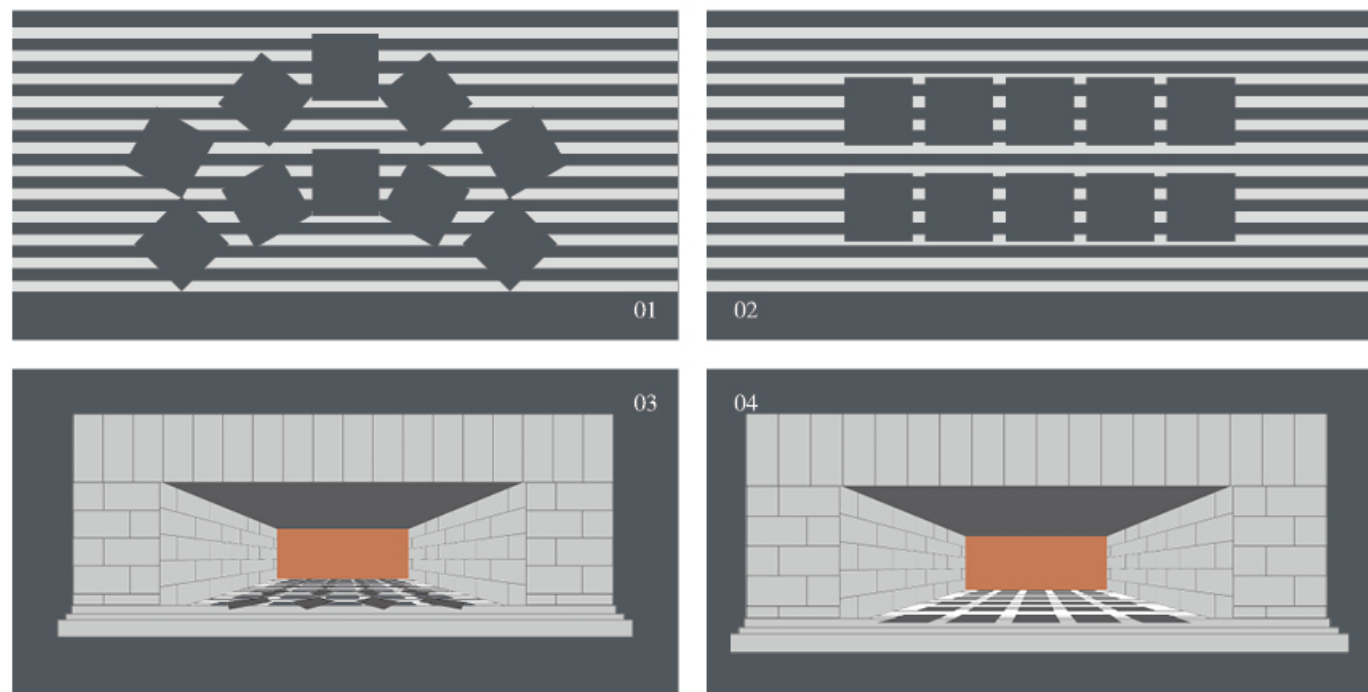
外观设计专利号: ZL 2007 3 0007327.2
Utility model patent NO. ZL 2010 2 0014509.6



弧形辊棒示意图
SKETCH OF ADJUSTED ROLLER

		HX93
物理性能 Physical Properties	密度 Bulk Density (g/cm ³)	2.7~2.8
	抗折强度(常温) Bending Strength (MPa)	≥65
	抗折强度(高温) 1350℃ Bending Strength (MPa)	≥46
	最高使用温度(℃) Max Working Temperature(℃)	1350
化学成分 Chemical Composition	Al ₂ O ₃ (%)	75~77
	ZrO ₂ (%)	2.5~3.0
	SiC(%)	

三英弧形辊棒优势 ADVANTAGES OF SCIEN ADJUSTED ROLLER



01同样窑内宽没有校正只能走四片砖且走砖分散
Same inner width in the kiln without adjust only can have 4 tiles run, and tiles running disrupt

03生产瓷砖窑炉中传统走砖状态
Traditional tiles running state of tiles manufacturing in the kiln

02同样窑内宽经校正可走五片砖且走砖整齐
Same inner width in the kiln after adjust can have 5 tiles run, and tiles running in order

04使用弧形辊棒校正后走砖效果
The result of tiles running after adjust by using adjusted roller



- 国家专利产品
- 提高成品率、节本降耗
- 校正走砖速度、避免碰转角、碰窑墙
- 更好地保证砖的平整度
- 量身定做、可在辊棒的不同位置增加弧度校正速度

- national patented product
- Increase rate of finished products, save cost and reduce energy
- Adjust tiles running speed, avoid bumping tile angles and kiln wall
- Better guarantee the flatness of tiles
- Customized, the radian can be adjusted accordingly.

辊棒的正确使用与清理

正确使用陶瓷辊棒，不仅关系到辊棒的使用寿命，而且影响到窑炉系统的正常运作。选择何种型号和规格的辊棒主要依据窑炉的最高烧成温度和辊棒的负载；辊棒的转速、中心间距和气氛也是选择合适辊棒的重要因素；除高温承重外，窑炉中一些气体和熔融物质的侵蚀，以及急冷急热造成的热冲击等因素也会影响辊棒的使用寿命。为此，我们建议：

- 使用前先将辊棒放置在窑炉旁边或窑底干燥，排除吸附的水份后再装窑使用。
- 辊棒插入窑炉的过程应尽快完成，避免辊棒在不转动的状态下局部受热时间过长。
- 在辊棒两端窑墙中间部位塞上保温棉。
- 先温窑至300-400℃，再装入陶瓷辊棒，然后平稳升温，继续温窑。
- 辊棒在正常使用过程中，应保持窑内温度稳定，避免局部温度大起大落。同时应经常检查辊棒的运转状况，发现断棒应及时更换。
- 当辊棒表面出现粘结物时，取出清理。
- 高温下取出辊棒时，应将辊棒放置在有保温材料支撑的垫架上，转动直至其冷却到600℃以下。为便于操作，垫架高度宜控制在20-120cm；或将取出的热辊棒平放在有耐火纤维棉铺垫的地面上，再在辊棒上面盖上绝热棉使其逐渐冷却。
- 热辊棒应避免与地板、冷金属接触。
- 清理辊棒表面粘结物时请勿使用硬性工具敲打。
- 窑炉熄火降温时，请继续开启排烟风机，保持辊棒正常运转，并关闭其他所有风机，保持烧成带微正压，以防冷风进入。经过一天冷却后，可适当加大排烟风机，使窑内温度逐步平稳降低；当窑内温度降至500℃以下时即可取出辊棒。
- 陶瓷辊棒应尽量避免在碱性气氛下使用，以免碱性物质腐蚀辊棒缩短使用寿命。

SCIEN ROLLER USAGE AND MAINTENANCE GUIDE

How to use ceramic roller affects not only on the lifetime of the roller but also smooth working of kiln. Generally speaking, the selection of roller depends on the firing temperature and loading of the roller. Meanwhile, the rotation speed, roller pitch, atmosphere, gas and molten materials are in the kiln also the important issue.

Considering the factors mentioned above, our suggestions for the roller usage are as following:

- Choose suitable model and size of ceramic roller according to the working temperature and loading of the kiln.
- Before using the roller, place the roller beside or bottom of the kiln for drying. Only after the roller has been dried enough it can be install in the kiln.
- In order to avoid the roller being heated too long in nonrotating state, the installation of the roller should be completed in a short time.
- Install ceramic fiber to the roller both ends at a depth of 50-60mm.
- Warm the kiln into 300-400℃ before install the rollers. And then steadily increase the temperature in the kiln.
- Keep a stable temperature in the kiln. Change the roller on time whenever its breakage.
- Whenever glaze drops or alike deposits appear, the roller should be pulled out for cleaning.
- In order to avoid roller bends when it pulls out from high temperature kiln, place the roller in a supporter (20-120cm height) with thermal insulating material. Keep continuously rotation until the temperature below 600℃, or cover it with thermal insulating blanket.
- Not allowed metal item or put into floor when roller is hot.
- Not allowed to use hard tool to knock the roller while cleaning.
- Keep working the exhausted fan and roller rotation after the kiln shut down. Turns off all the other exhausted fans and keeps the kiln into a positive pressure, so as to avoid the cool air enter. After 24 hours cooling, speed up the exhausted fan and kiln the temperature of the kiln low down steadily. The roller can be take out when the temperature in 500℃ or below.
- In order to extend the lifetime of the rollers, trying not to use the ceramic roller in a Alkaline atmosphere.