

## Roto TSL

Twin-cam security locking for outward opening windows



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### Enhanced security for outward opening windows

Protection against break-ins cannot be overestimated. With Roto TSL, Roto has invented a solution which enables a high level of security for outward opening windows, especially according to jemmying.

The one-piece espagnolette contains up to four pairs of dual reverse-action locking points and so provides better protection right from the start.



#### **Technical properties of Roto TSL**

- Application range from 305 to 1600 mm
- Excentric cams: 8 and 9.5 mm height with gasket compression adjustment (+/- 1 mm)
- 20 mm and 22 mm backset
- Suitable for standard and shallow Euro-grooves

Due to its compact product design, Roto TSL is suitable for a wide range of profile systems. This allows you to reach more sales and maximum turnover potential.



### Tested security

When the handle is turned, the Roto TSL gearbox drives each pair of cams into double sided strikers from opposite directions. Due to its high level of security performance the espagnolette is fit to meet demands defined in PAS 24:2012 (based on BS 7950:1997).

### Excentric cams

The outward opening specific, excentric cam design not only increases burglar-resistant security, it also provides greater gasket compression.

### Additional features

Roto TSL contains a night ventilation function in combination with the also available non-handed double entry strikers. In addition, the dual striker engagement prevents from twisting.



## Minimal handling costs

## Maximum quality

With Roto TSL, Roto has developed an espagnolette, which offers producers and manufacturers an extremely simple way of manufacturing. Thanks to a number of added value features, Roto TSL ensures a significant gain in flexibility, efficiency and failure avoidance – to reduce handling and installation costs permanently.



### **Fast and correct hardware identification**

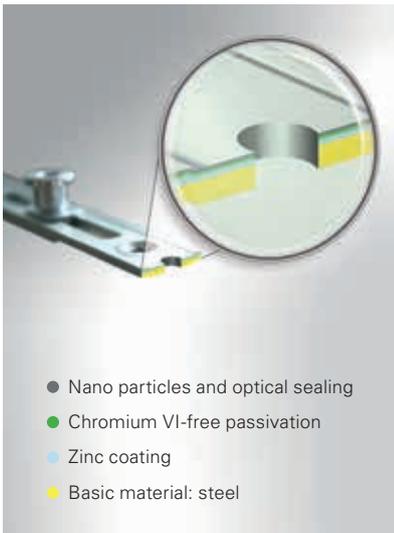
Roto TSL improves the production process right from the start. The hardware contains relevant information like backset sizes and application ranges readily visible, simplifying the identification of the parts required.

### **Quick and easy alignment**

Due to the two corresponding marks – one between the cams on the espagnolette's faceplate and one on the center of the various double entry strikers – the alignment in the production process becomes much easier and faster as well. Furthermore, with the cam collar guides being located within the faceplate, the clearance can be utilized to a maximum degree.

### **Increased form stability based on Roto NT technology**

The one-piece espagnolette incorporates a profiled faceplate based on Roto NT technology and therefore meets the highest requirements for security, ease of operation, durability and design. With its pleasing aesthetic matt silver look, it ensures a high quality impression of the complete window.



**Roto Sil Nano:  
Firstclass Protection**

Roto TSL espagnolettes are treated with a Roto Sil Nano surface-finish based on Roto NT technology. Using nano-particles, Roto has succeeded in creating a surface, which is extremely scratch-resistant and offers outstanding corrosion protection as a standard, cost-free feature. This leads to a unique quality standard that ensures the function of your products over the lifecycle.

**Approved quality**

Naturally, Roto TSL is tested in accordance with the current standards and regulations based on EN 1191:2012 up to 50.000 cycles. The Roto Sil Nano technology withstands daily corrosion tests to ensure consistent product quality, tested to 480 hours (= class 5 based on EN 1670:2007).

**10 years functional guarantee**

Systematic quality controls with the strictest test requirements warrant that every individual TSL component is in accordance with our quality standards. To underline this certainty about our product, we provide Roto TSL with a 10-year functional warranty for our partners.

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