

## ■ 工作原理

在第二面或第三面镀上金属膜层，利用金属膜层导电取代钨丝导电对整面玻璃均匀通电加热，实现除冰除霜及显著隔热的作用。

## ■ 主要优点

- ✓ 具备热反射功能，节能降耗
- ✓ 在-5°C的温度下只需两分钟即可获得清晰的视界，提升了安全性；
- ✓ 夜间行车减少反炫效果显著
- ✓ 静音技术（无需引擎风加热除雾，特别适合电动车）

## ■ 主要指标

- ✓ 20分钟，主视区化霜80%
- ✓ TTS < 40%

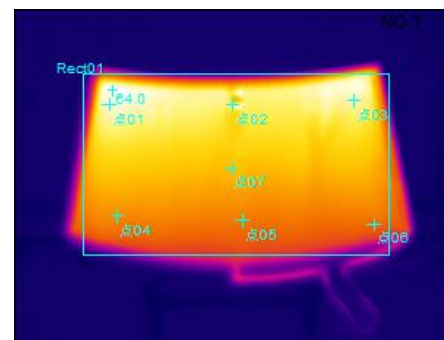
## ■ 主要应用

- ✓ 夹层前挡玻璃

## ■ Status

- ✓ In industrialization – SOP 2017
- ✓ Up to now 1 serial orders received

红外热像图



目标参数	数值
环境温度	20°C
点分析	数值
点01温度	62.5°C
点02温度	60.3°C
点03温度	61.3°C
点04温度	48.6°C
点05温度	47.3°C
点06温度	45.5°C
点07温度	54.1°C
区域分析	数值
Rect01最高温度	64.0°C



# Coating heated

## ■ Principle

A metal coating layer is applied to the glass inner surface (side 2 or side 3) before laminating. The metal coating layer removes ice, frost and fog from the outer surface of the windshield when activated

## ■ Advantage

- ✓ Anti-Heating function, saving energy and reducing consumption.
- ✓ Only using 2 minutes to realize clear view, adding safety.
- ✓ Reducing the glare from oncoming traffic
- ✓ Silent technology, no ventilation system needed, especially suitable for EV.

## ■ Used on

- ✓ Windshield

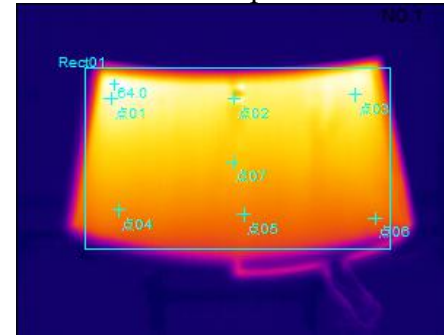
## ■ Key indicators

- ✓ After 20 minutes, 80 of A zone (driver side) is deiced.
- ✓ TTS<40%

## ■ Key indicators

- ✓ In industrialization – SOP 2017
- ✓ Up to now 1 serial orders received

infrared thermal picture



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## ■ 工作原理

将直径0.018~0.033mm的钨丝,布在PVB上,通过对钨丝通电发热后加热玻璃从而起到除雾/雪等功能.

## ■ 主要优点

- ✓ 化去玻璃表面的霜,雾,雪,冰
- ✓ 提高清晰的视野

## ■ 主要应用

- ✓ 夹层前挡玻璃:整面或雨刮片停止部位
- ✓ 夹层后挡玻璃:整面

## ■ 主要指标

- ✓ 功率密度: 450~600W/m<sup>2</sup>(整面),  
800~2000W/m<sup>2</sup>(雨刮)



## ■ Principle

Metal wire of diameter 0.018~0.033mm, embedded into PVB, heats the wire which heats the glass to defrost or de-ice by passing an electrical current

## ■ Advantage

- ✓ Defrost/de-ice quickly
- ✓ Clearer view

## ■ Used on

- ✓ Windshield: whole surface or wiper area
- ✓ Laminated backlite: whole surface

## ■ Key indicators

- ✓ Power density: 450~600W/m<sup>2</sup>(whole),  
800~2000W/m<sup>2</sup>(wiper area)



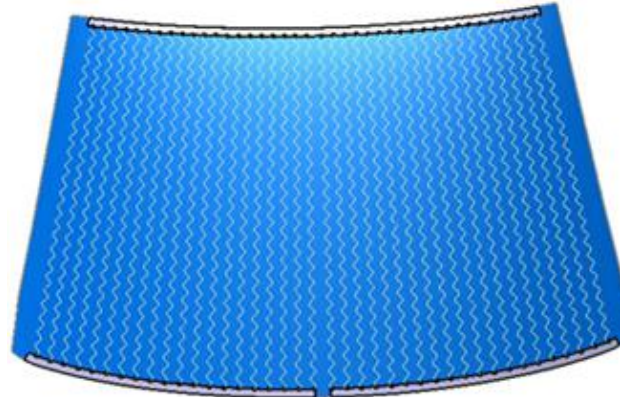
■ 实绩/Application

Windshield wire heated  
-Without tri-angle/ 矩形夹丝



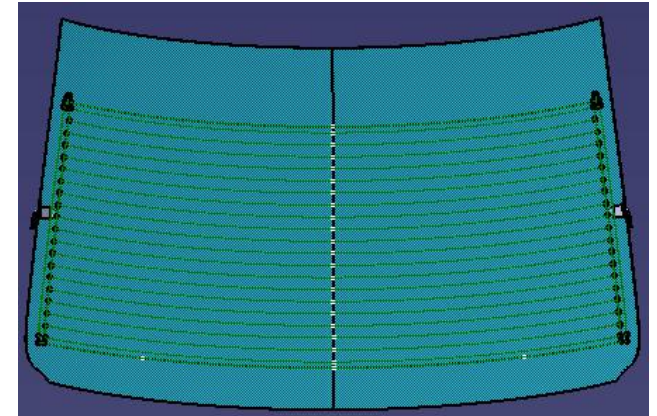
OEM	Project
VW	Polo/Rapid/Tiguan
BMW	MINI
Land Rover	Freeland/XF
Ford	Edge
Reynolds	Duster

Windshield wire heated  
-With tri-angle/ 整面夹丝



OEM	Project
VW	Teramont
VW	Lavida BEV
VW	Bora MQB BEV

Back window wire heated  
-With arc tungsten wire heated / 后挡横向布丝



OEM	Project
VW	Phideon