

# Panlite Spotlight

Fourth Quarter 2013 Highlights

Teijin Kasei Europe B.V.

## This quarter's spotlight: T-2800R series

In this quarter, the spotlight is on our Multilon® T-2800R (PC/ABS) automotive series. Multilon® is the trade name for our PC/ABS series.

We will share with you the unique properties and benefits of this series.

### What is T-2800R series?

Our Multilon® T-2800R series consists of non-reinforced PC/ABS grades, serving the needs of the automotive industry. All grades under this series are compounded locally in Europe.

### What is the difference?

Grade Name	Features		
	Heat Resistance	High Flow	High Impact Resistance
T-2810R	High	✓	✓
T-2830R	Mid-High	✓	✓
T-2850R	Middle	✓	✓

### What are the possible applications?

Automotive - Interior & Exterior

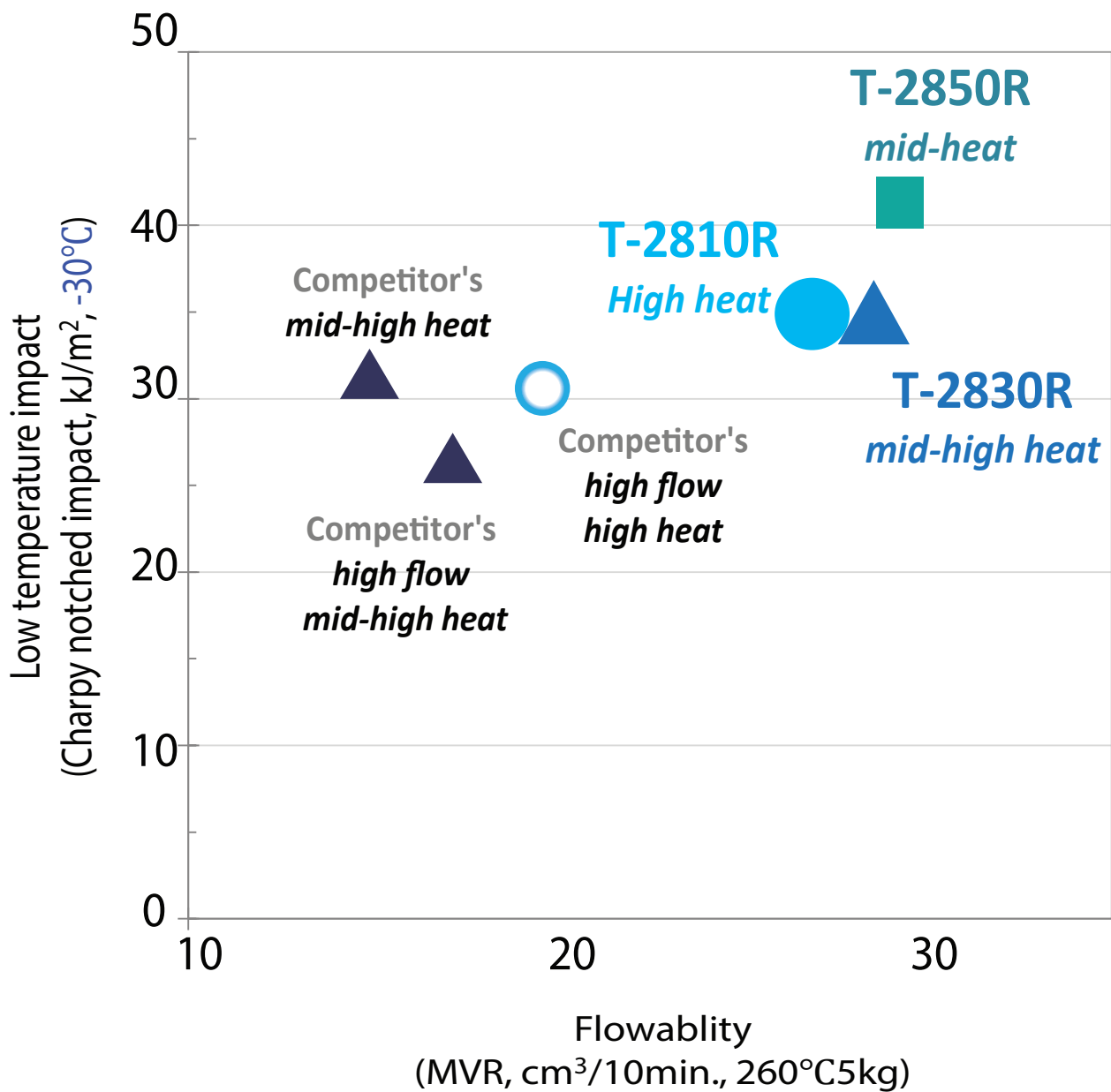
eg. air ventilation, door mirror housing

## Properties at a glance

Property	Unit	Method	Conditions	T-2810R	T-2830R	T-2850R
Density	-	ISO 1183	kg/m <sup>3</sup>	1140	1130	1110
MVR	260°C/5kg	ISO 1133	cm <sup>3</sup> /10min.	27	28	29
Tensile Stress at Yield	-	ISO 527-12	MPa	55	52	48
Tensile Stress at Break	-			50	55	50
Tensile Strain at Break	-		%	120	120	120
Flexural Strength	2mm/min.	ISO 178	MPa	85	80	75
Flexural Modulus				2200	2150	2000
Charpy Impact Strength (Notched)	23°C	ISO 179 1eA	kJ/m <sup>2</sup>	50	50	65
	-30°C		kJ/m <sup>2</sup>	35	35	40
Load Deflection Temperature	0.45MPa	ISO 11359-2	°C	130	125	120
	1.8MPa			110	102	95
Vicat softening	B50 (50N; 50/h)	ISO 306	°C	128	120	111

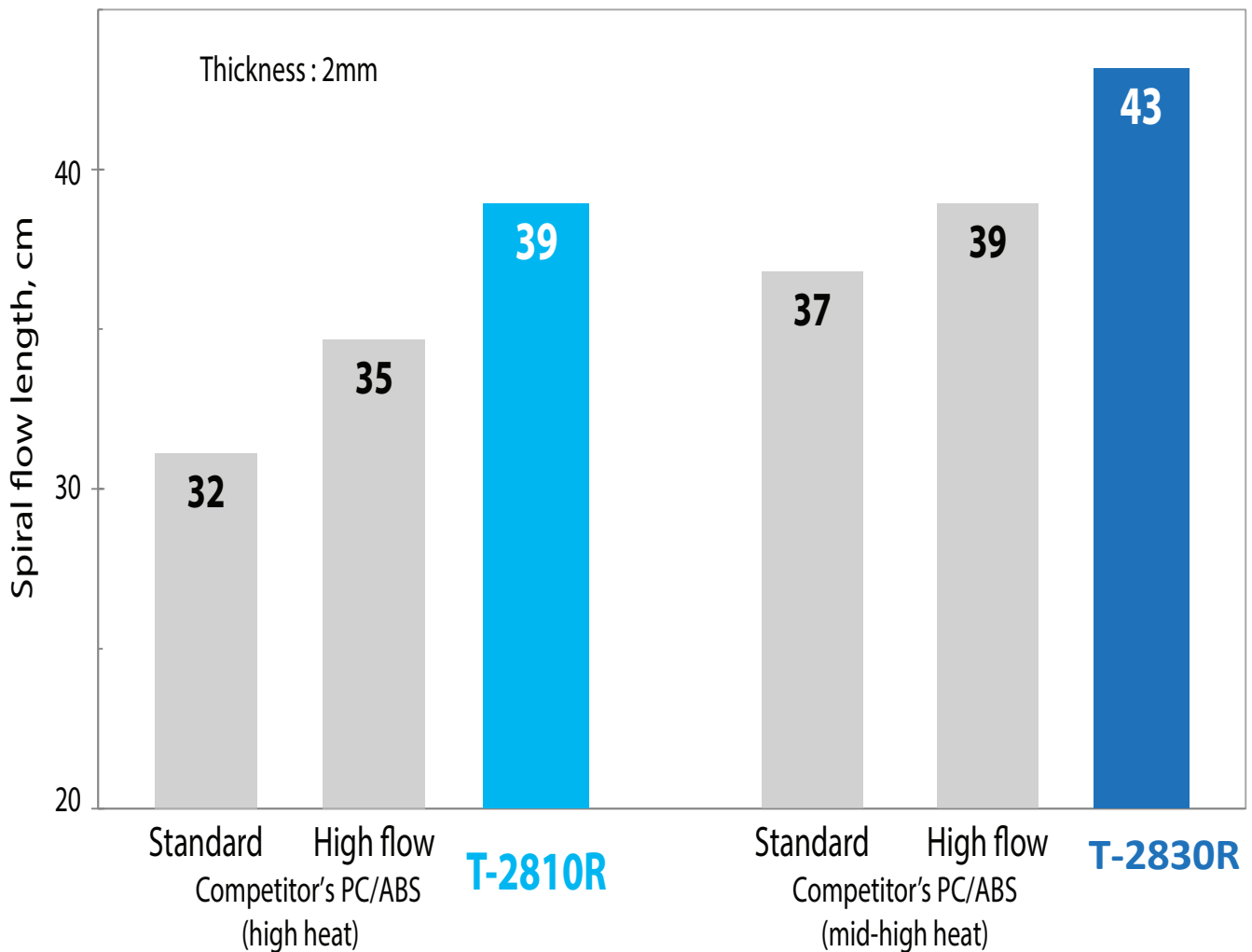
The above figures are specification values, not certified values.

## Flowability & Impact Properties Comparison



The above test results are based on in-house test methods conducted by Teijin Limited.

## Spiral Flow Comparison

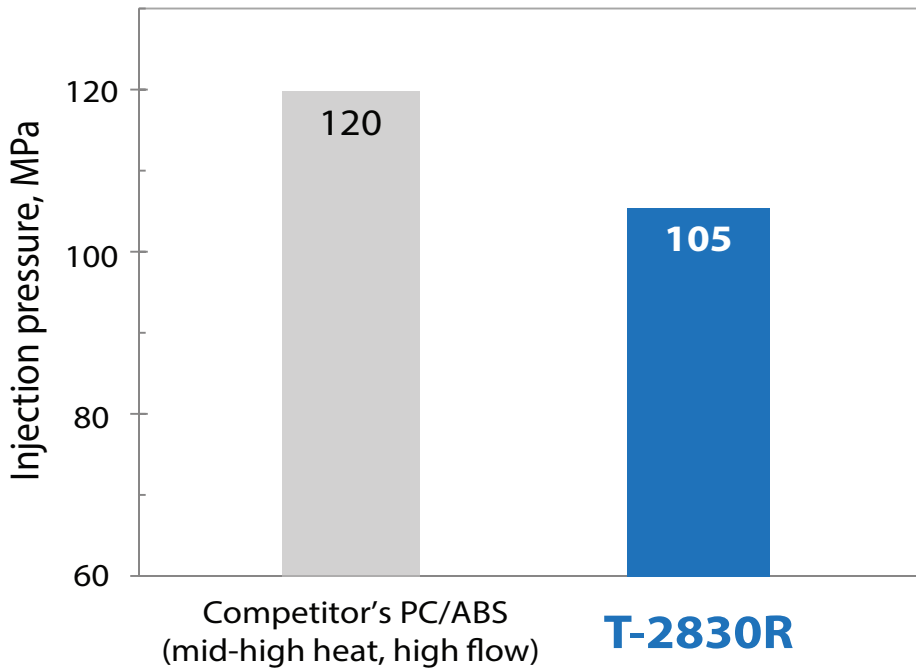


### <Test Conditions>

- Clamp Force: 150 tonnes
- Mold Temperature: 70°C
- Molding Temperature: 280°C
- Injection Pressure: 100 MPa

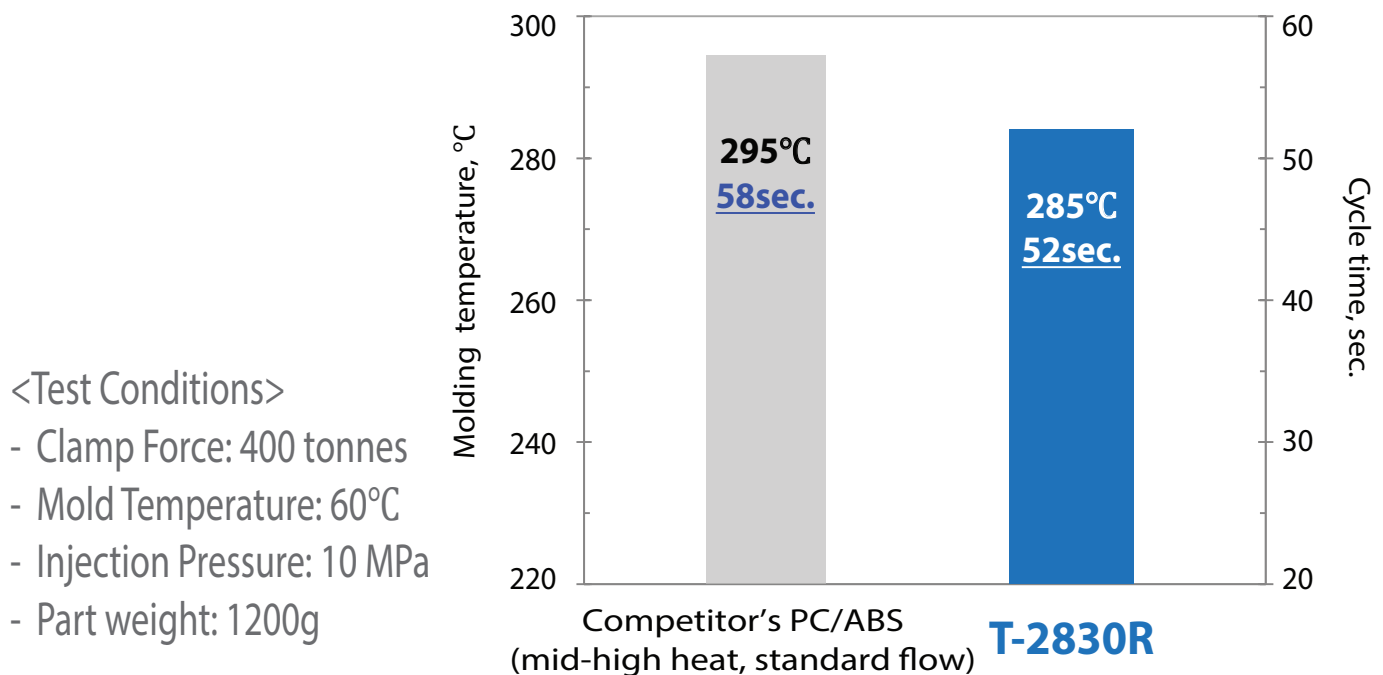
This information is provided by Teijin Limited in good faith.

## Case Study Comparison



<Test Conditions>

- Clamp Force: 1300 tonnes
- Mold Temperature: 60°C
- Molding Temperature: 280°C
- Part weight: 1200g



<Test Conditions>

- Clamp Force: 400 tonnes
- Mold Temperature: 60°C
- Injection Pressure: 10 MPa
- Part weight: 1200g

The above test results are based on a trial conducted by an EU customer. This information is provided by Teijin Limited in good faith.

## Benefits of T-2800R Series

1. Processing Cost Savings
  - Lower injection pressure = Machine cost savings
  - Lower molding temperature = Energy savings
  - Shorter cycle time
  
2. Light Weight Parts
  - Thin-wall parts design possible
  - Wide range of parts design possible

## Approvals at OEMs

OEM	Norm	T-2810R	T-2830R	T-2850R
<b>Volkswagen</b>	TL 52231	✓	✓✓	-
		TL 52231 B	TL 52231 A	
<b>Daimler</b>	DBL5404	✓	✓	-
		30 PC+ABS	20 PC+ABS	
<b>BMW</b>	GS93016	Testing	Testing	Testing
<b>FIAT</b>	55231/01	✓✓	✓✓	✓✓



✓✓ Listed  
 ✓ Passed test

The above information is based on actual test results conducted in an external EU laboratory.  
 This information is provided by Teijin Kasei Europe B.V. in good faith.

## Who are we?

Teijin Kasei Europe B.V. (TKE) has been in Europe for more than 10 years, serving all customers in the EU region.

TKE offers sales and technical support from Venlo, The Netherlands.

Our headquarters is located in Tokyo, Japan.

## Where is our production site?

Most of our materials are compounded locally in EU.

Other production sites include Japan, China and Singapore.

## How to buy?

Contact the distributor who sent you this newsletter or write to us at [info@teijin.nl](mailto:info@teijin.nl).

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### Disclaimer:

All information found in this newsletter is provided by Teijin Kasei Europe B.V. in good faith and without any form of guaranty. Material properties are taken using in-house test methods.

We recommend our customers to test our materials to their own suitability for their own intended usage.

The information is subject to change without any prior notice.