



# The High Fire-Shielding Polypropylene: Flame-Retardant *FUNCSTER™*

Stage

Concept

Developing

Developed

Launched

Keyword

Lightweighting

Use

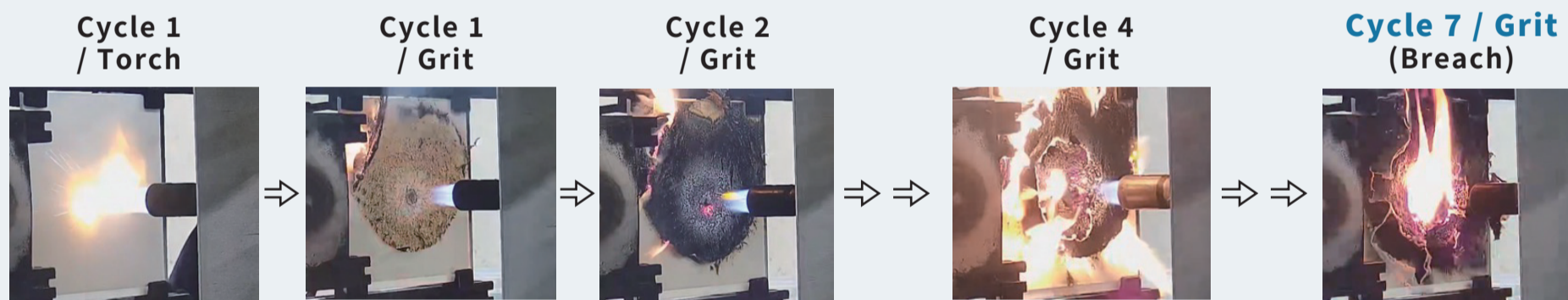
Battery enclosure materials, etc.

## Background

Thermal runaway's risk is increasing due to making a greater capacity of the battery for extending the traveling distance. New product we developed has the features of flame retardance (fire-spread prevention), which applies to enclosure parts where it is difficult to replace metal with conventional PP. Flame retardant *FUNCSTER™* can withstand 7 cycle times TaG test and achieve no breach BETR test of UL2596. Therefore, it is expected to reduce car weight by replacing the conventional metal material.

## UL 2596 TaG Test\*

Test : 15 seconds 1200 °C x 3 kW flame , followed by 5 seconds of flame and grit blast.  
Evaluation : Cycle repeated until sample breaches.



Flame retardant *FUNCSTER™* can reach 7 cycle times.  
(Conventional PP is penetrated in the first cycle.)

Thermal Energy of TaG Test Cycle 7 (approx. 315 kJ) is equivalent to approx. 25 times larger than that of UL94-5V Test (approx. 12.5 kJ).

## UL 2596 BETR Test\*

Test : Thermal runaway 25 batteries  
Evaluation : Judgment of breaches through N3 all test plaques.



\* TaG : Torch & Grit, BETR : Battery Enclosure Thermal Runaway

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