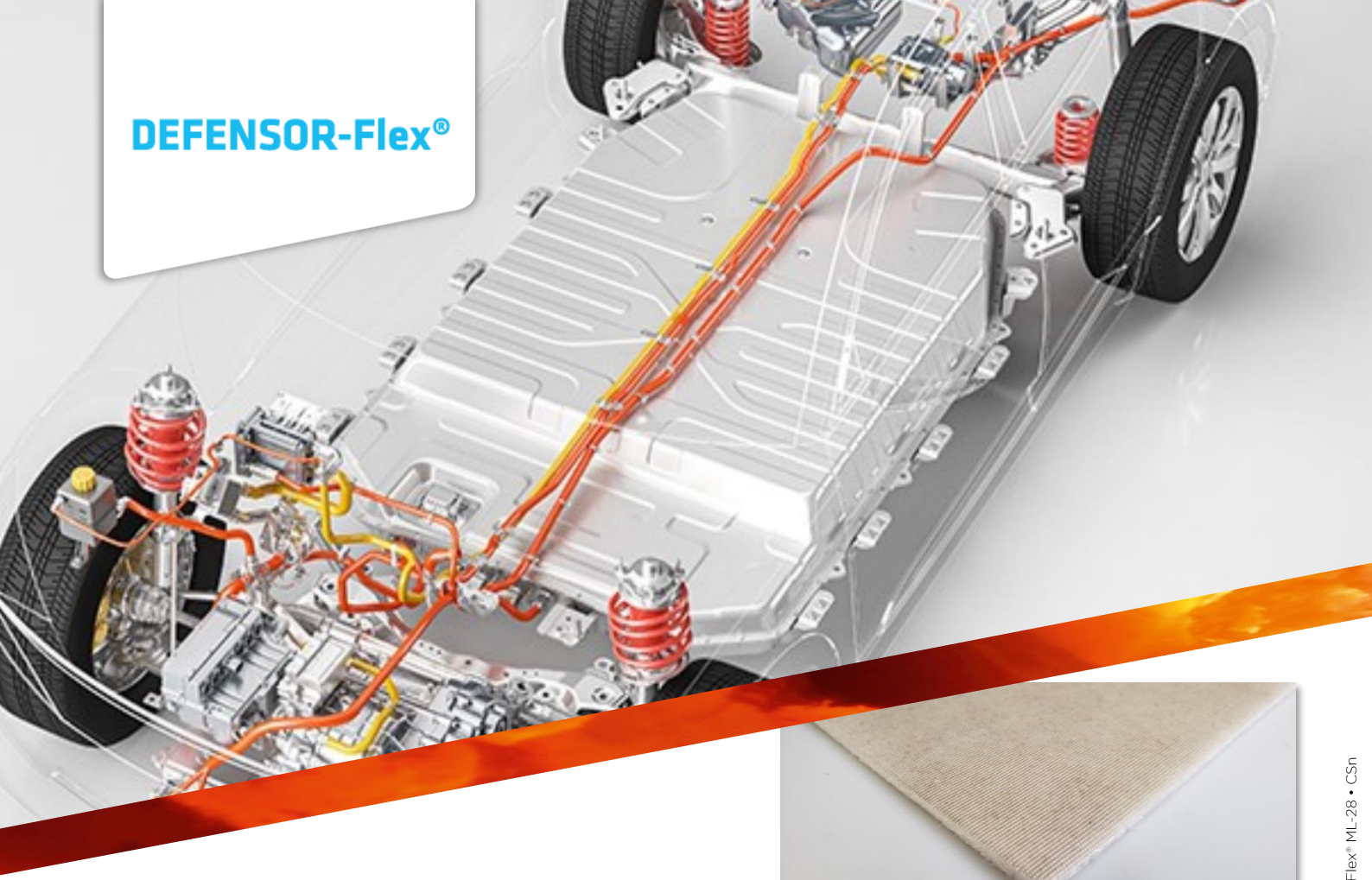
DEFENSOR-Flex®





# DEFENSOR-Flex® ML-28

ML28 – 9U15E28006-35
IMDS available on request

The DEFENSOR-Flex® multilayers can consist of a customer-oriented tailor-made combination of high-tech needle mats, fabrics, high-performance plastic, mica and/or aluminium foils and self-adhesive finishes

As the basis of the DEFENSOR-Flex® multilayers of the HKO Heat Protection Group, needle mats are used, which are manufactured in a modern manufacturing process, without the addition of binders, by purely mechanical needling.
Alternative high-performance fabrics can be used for producing thinner solutions than with needle mats.

Applications of DEFENSOR-Flex® multilayers:

- Fire barrier for thermal runaway of lithium-ion batteries
- Protection of vehicle occupants in the event of an accident against possible fires
- Protection of adjacent battery cells and modules and delay the thermal runaway propagation of lithium-ion batteries
- Provide protection under battery cells and on the exterior walls from fires on the road or when transporting vehicles.
- Allowing pressure relief in the event of battery explosions, reducing the escape of highly toxic gases and prevent the spread of flames and sparks.
- Use when transporting defective batteries in special transport packaging

DEFENSOR-Flex® ML-28 can be delivered in rolls or customized as make-to-order-product, designed to functional requirements. Cut edge sealing optionally available.

Also available as DEFENSOR-Flex® ML-28-PSA, one side pressure sensitive adhesive.

SAINT-GOBAIN

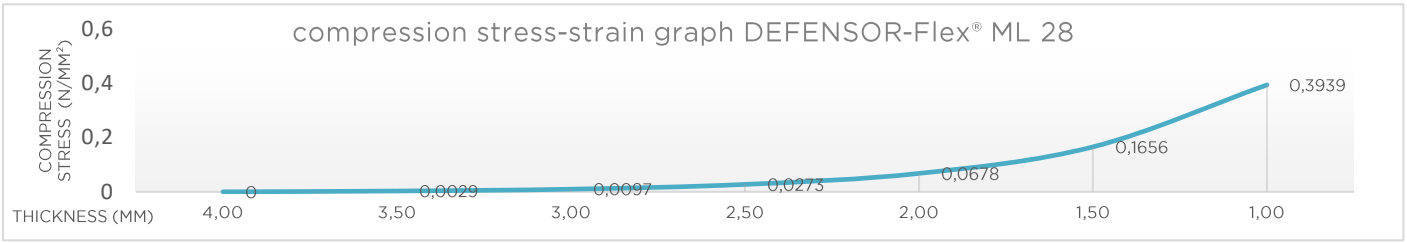
# DEFENSOR-Flex® ML-28

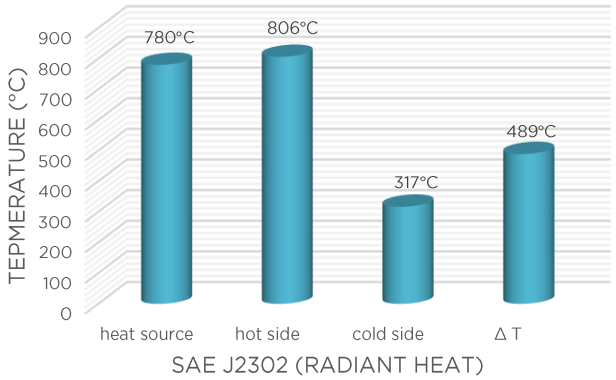
DEFENSOR-Flex®

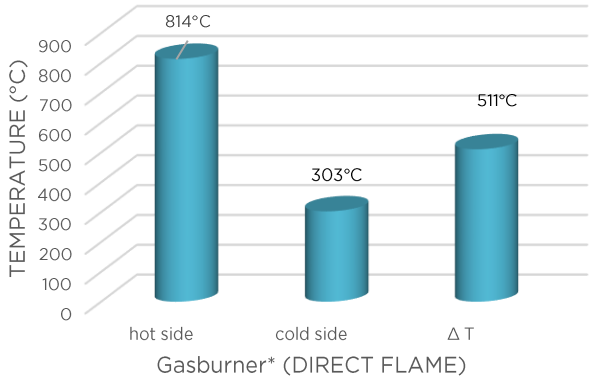
| | | |
|---|---|---|
| functional layers | | 3 |
| width [mm] | | max 1.000 |
| construction | | balanced |
| **HAKOTHERM®-1200**-mat<br>high temperature lamination<br>both sides scrim reinforced mica | | Silica |
| operating temperature [°C] | | -40 to 1.000 |
| total area weight [g/sqm] | | 1.230 |
| thickness [mm] | | 3,8 |
| Specific heat [J/g°K] | at 20°C<br>at 200°C | 0,764<br>0,958 |
| Electrical resistance [kV] | ASTM D149-97a, Meth. A | >12 |
| CTI [V] (classification) | IEC 60112 | 600 (class I) |
| REACH / RoHS | | compliant |
| Thermal Performance: | | |
| Tested according | SAE J2302 | |
| | heat source | >780°C |
| | hot side | 806°C |
| | cold side | 317°C |
| | Δ T | 489°C |
| burning behaviour | FMVSS-302 | SE |
| | UL 94 V | 0 |

Thermal conductivity (GHP):

| t in °C | 50 | 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| λ W/(m*K) | 0,052 | 0,061 | 0,081 | 0,104 | 0,131 | 0,163 | 0,198 | 0,238 | 0,282 | 0,331 | 0,385 |





**TRUST THE EXPERTS | HKO**

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SAINT-GOBAIN