

# Thermal Conductive Sheet - Carbon Fiber Type

Quickly dissipates heat to the heat sink to protect the device from overheating

Product Name      EX series

Features

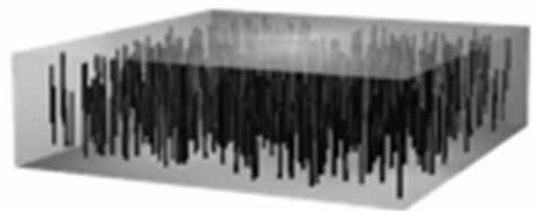


- Exceptional thermal conductivity (up to 40 W/mk) in thickness direction due to its unique asymmetric structure.
  - Dexerials' proprietary carbon fiber orientation technology contributes to high flexibility while maintaining excellent thermal conductivity.
- Under development
- EX20000CX: Can be as thin as 0.1mm
  - EX10000K3: High thermal conductivity with added noise suppression function

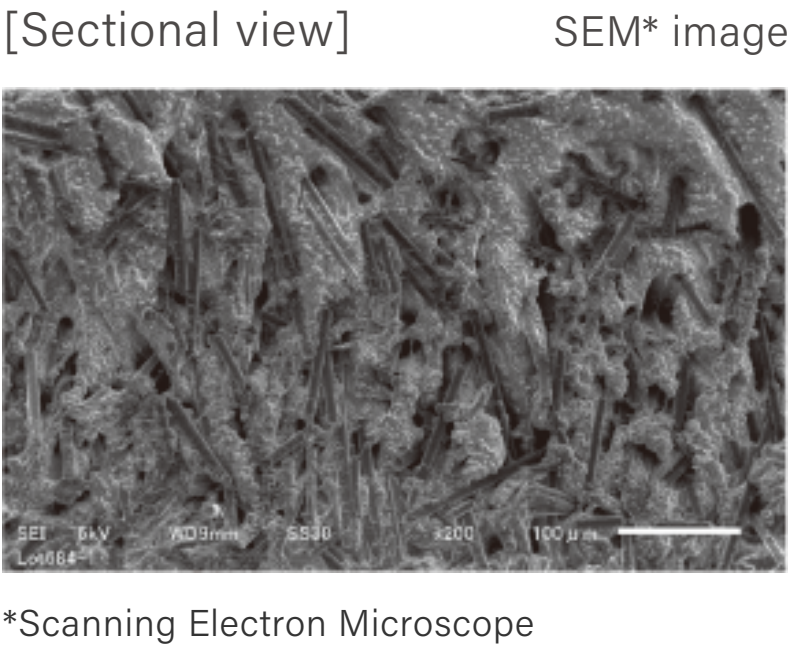
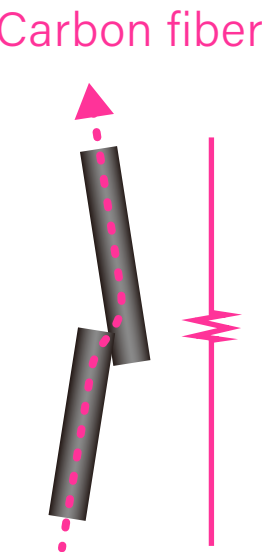
Structure

Thermal conductive sheet with vertically aligned high density carbon fiber fillers. The product is very flexible due to its unique asymmetric structure while attaining high thermal conductivity in thickness direction.

Carbon Fiber Sheet

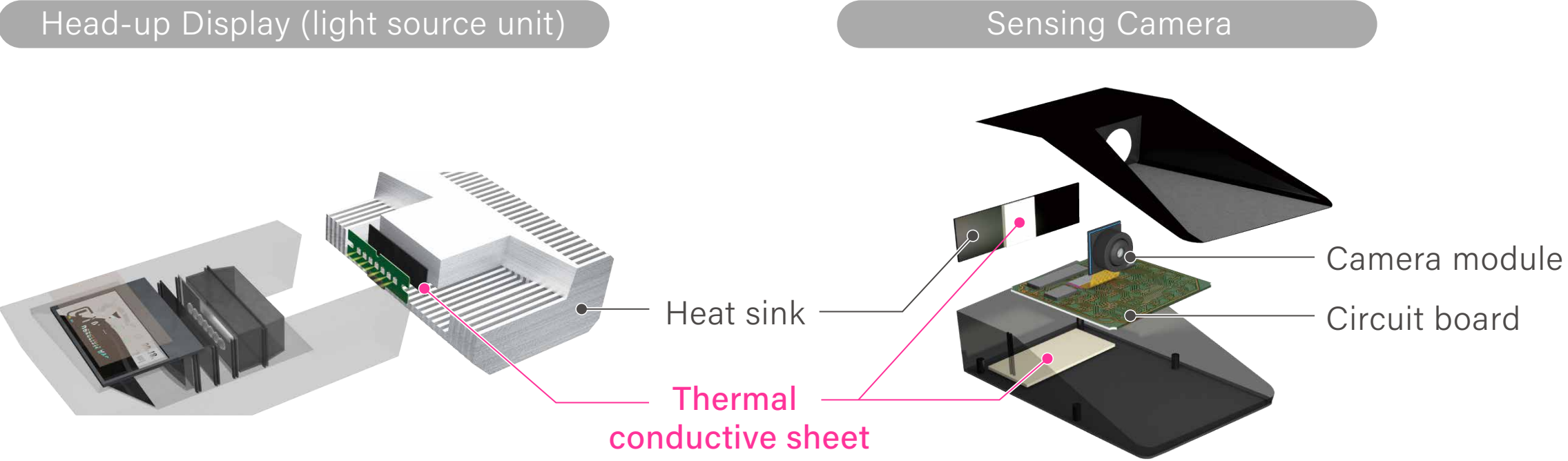
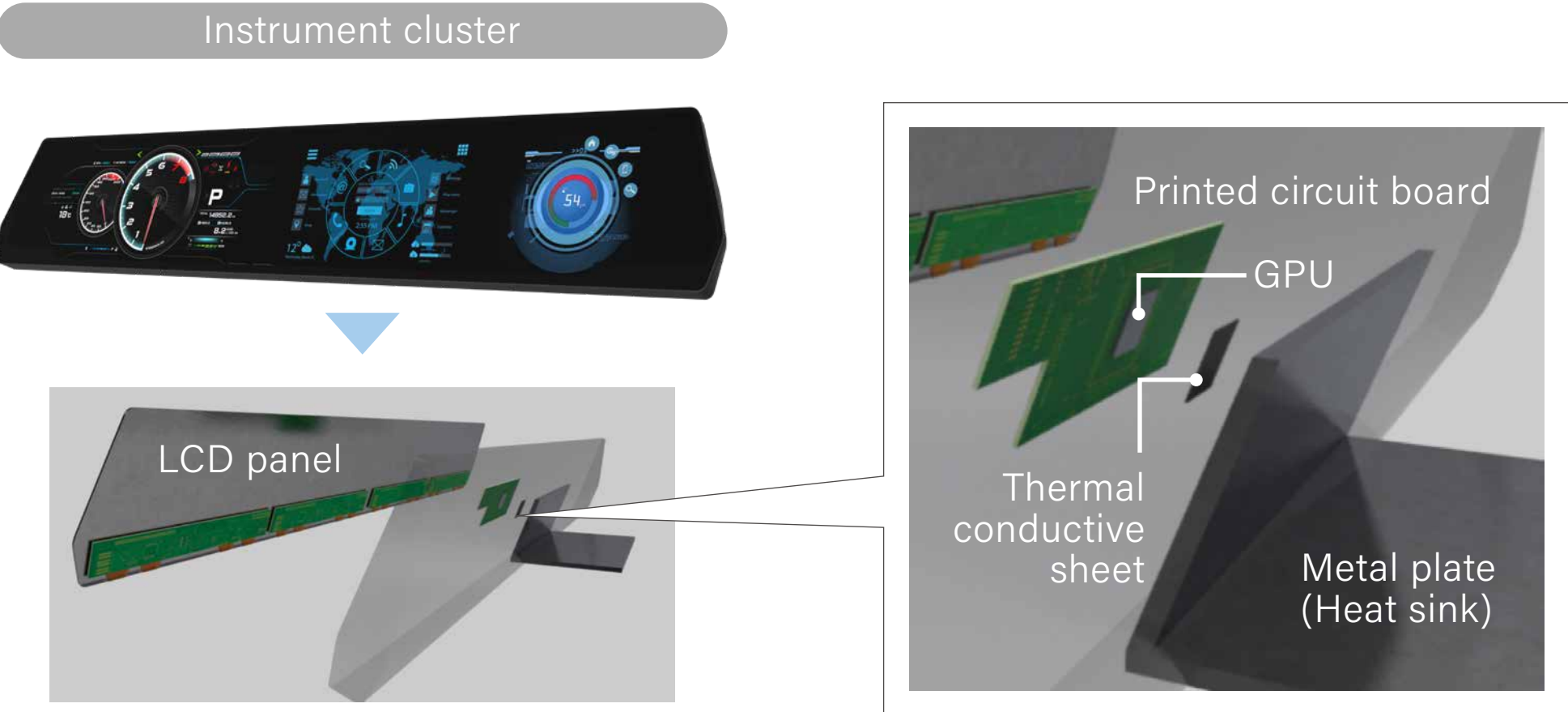


Thermal conductivity of carbon fiber  
**900 W/m·K**



Application

Suitable for instrument cluster, center information displays, head-up displays, sensing cameras, batteries, head lights



## Specifications

Item name	Thermal conductivity*1	Hardness*2	Thickness*3 *4	Resin binder	Flame retardance
	W/m・K	Shore OO	mm		
EX20000CX <div>Under-development</div>	38	< 85	0.1	Silicone	-
EX20000NC1 <div>Under-development</div>	20	40 - 60	1.0 - 3.0		UL94 V-1 (1.0 - 1.5mm) UV94 V-0 (1.5 - 3.0mm)
Noise Suppression EX10000K3 <div>Under-development</div>	20	40 - 60	0.5 - 3.0		-
EX20000C4S	40	70 - 80	0.3 - 0.5		UL94 V - 0
EX20000C9	40	50 - 60	0.5 - 3.0		UL94 V - 0
EX20000C9S	35	20 - 35	1.5 - 3.0		UL94 V - 0 (1.5mm~)
EX10000F7	30	50 - 60	0.4 - 3.0		UL94 V - 0
EX10000NC1	10	40 - 50	1.0 - 3.0		UL94 V-1 (1.0 - 1.5mm) UV94 V-0 (1.5 - 3.0mm)

\*1 :Value shown does not include influences caused by the interfacial thermal resistance. Thermal resistance is calculated based on the following formula.

$$R_{di} = \frac{d_i}{K_{bulk}} + R_{surface}$$

R<sub>di</sub>

:

Thermal resistance with different thickness [Km<sup>2</sup>/W]

d<sub>i</sub>

:

Each sheet thickness [m]

K<sub>bulk</sub>

:

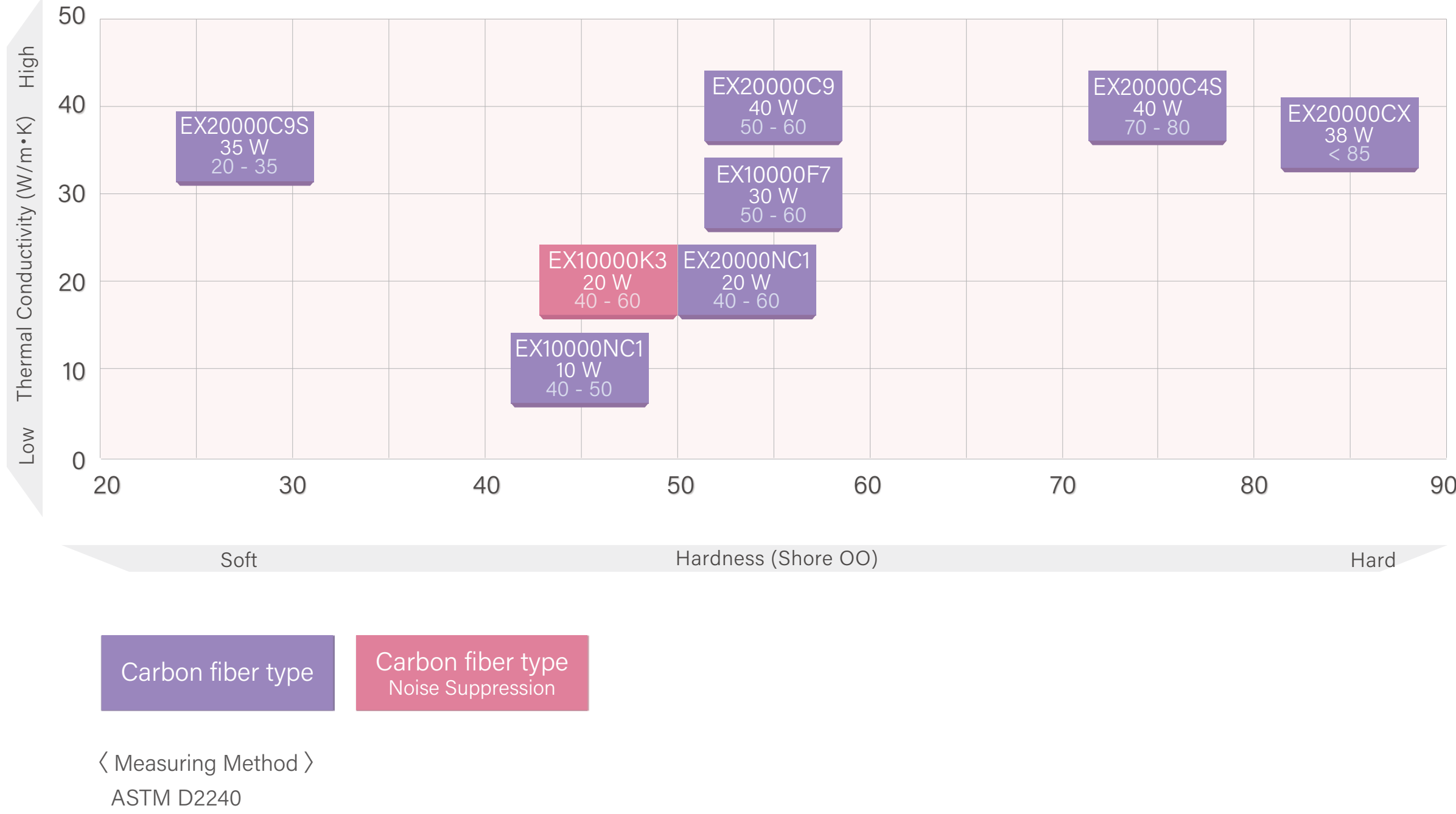
Bulk thermal conductivity [W/m・K]

R<sub>surface</sub>

:

Thermal contact resistance [Km<sup>2</sup>/W]

- \*2:Hardness is measured by stacking the sheets to thickness of 10mm and over.
- \*3:Represented is the thickness of the thermal conductive sheet, excluding release liner.
- \*4:Customized thickness and product size will be available upon request.
- \*5:Calculated from the thermal resistance.



## Dexerials America Corporation

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The document was created in September 2021.