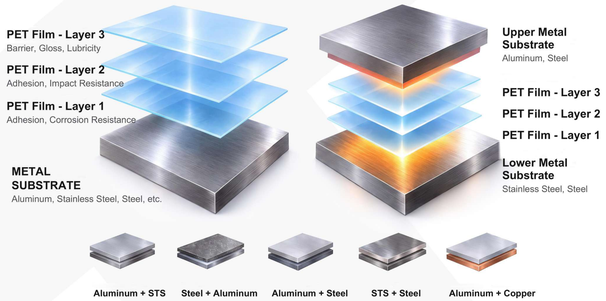
ONE MATERIAL. MULTIPLE EV SOLUTIONS.

Lightweight, quiet and efficient - functional metal solutions for EVs

K·ECO STEEL'S
THERMAL LAMINATION
ENABLES DISSIMILAR-METAL BONDING

Functional films and thermal lamination enable the joining of dissimilar metal substrates, including steel, stainless steel and aluminum. Material combinations can be engineered to meet product requirements for weight, strength, thermal properties and surface performance.



DISSIMILAR MATERIAL JOINING
Combines different metal substrates

ADHESIVE-FREE / SOLVENT-FREE
No adhesives or solvents used

Functional material design combines the properties of different materials to meet product-specific requirements.

K·ECO STEEL

MORE FUNCTION LESS IMPACT
GREATER FUNCTION, LOWER ENVIRONMENTAL IMPACT

INNOVATION PREMIER 1000	U.S. PATENT	INNO-BIZ
GLOBAL SMALL GIANT	JAPAN PATENT	MAIN-BIZ
GREEN TECHNOLOGY CERT.	CHINA PATENT	ISO 14001
PRIME MINISTER'S COMMENDATION	INDIA PATENT	ISO 45001
MINISTERIAL COMMENDATION	KOREA PATENT	ISO 9001

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NVH PERFORMANCE
MULTI-MATERIAL BONDING
EV SOLUTION

www.**kumah**.co.kr

K·ECO STEEL

ENGINEERED FOR **NEXT**

K·ECO STEEL
MOBILITY

Material innovation for next-generation mobility



WHY K·ECO STEEL?

K·ECO STEEL MOBILITY
Thermal lamination bonds metal and functional film using heat and pressure, enabling combinations of steel, stainless steel, aluminum and other metal substrates. With dissimilar-metal joining, vibration and noise reduction, and added surface and structural functions, K·ECO STEEL offers functional material solutions tailored to next-generation mobility.

MULTI-MATERIAL BONDING
Different materials engineered as one

NO EFFLUENT, NO CARBON & SIMPLER PROCESS
Manufacturing technology that transforms the process

NVH PERFORMANCE
Functional materials for vibration and noise reduction

MASS PRODUCTION
Production capability that turns technology into reality

K·ECO STEEL DISTINCTIVE ADVANTAGES

NVH PERFORMANCE
MULTI-MATERIAL BONDING
EV SOLUTION

www.kumah.co.kr

MOBILITY

CLEANER & SIMPLER PROCESS

Manufacturing Technology That Transforms the Process

Automotive metal materials may undergo painting, coating, bonding, drying and post-treatment processes, depending on their required functions. K·ECO STEEL thermally laminates functional films onto metal, integrating the required functions into the material itself and offering a way to reduce some multistage surface-treatment processes.

Potential to replace or simplify some multistage painting and bonding processes

A manufacturing approach that reduces reliance on solvent- and adhesive-based processes



Environmental effects and reduction figures are based on the company's internal review and calculation criteria and may vary depending on actual process conditions.

NVH PERFORMANCE

Functional Materials for Vibration and Noise Reduction

Automotive components are continuously exposed to vibration and impact from the engine, motor and driving. Material technologies are therefore needed to reduce these effects. K·ECO STEEL applies functional damping layers between metals, using its damping-steel technology to create a structure that attenuates vibration energy generated in metal sheets.

Attenuates vibration energy through functional interlayers

Suitable for evaluating vibration and noise reduction in thin-sheet components such as EV battery cases and covers

Metal combinations and interlayer design enable optimization of damping, rigidity and weight

Domestic production and supply alternatives can be developed for damping materials currently sourced through imports



MOBILITY APPLICATION

Next-Generation Solutions to Enhance EV Performance

Quiet & Lightweight

Damping + Structural Performance + Lightweight Design

EV COOLING PLATE Thermal Management

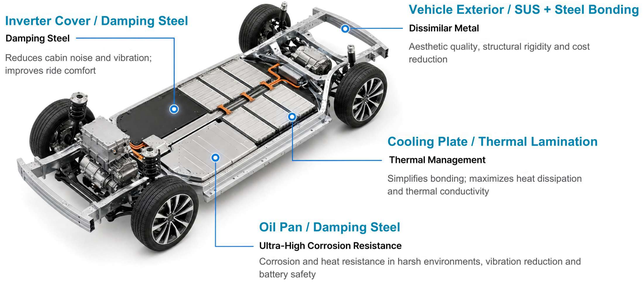
Aluminum/STS Dissimilar-Metal Bonding + Airtightness + Thermal Management

INVERTER COVER / OIL PAN NVH Solution

Damping Steel to Reduce Reliance on Separate Damping Pads

MULTI-MATERIAL BODY Right Metal, Right Function

Dissimilar-Metal Bonding That Places the Right Metal Where It Is Needed



MASS PRODUCTION

Mass Production Enabled by Continuous Processing

KUMAH STEEL has established a mass-production foundation for continuously applying functional films to coil-form metal through roll-to-roll continuous thermal lamination production equipment.









