Coated Steel Sheets

Hot-dip Galvanized Sheets, Electrogalvanized Sheets and Precoated Sheets
Coated Steel Sheets of NIPPON STEEL

Steel sheets are applied throughout a broad spectrum of life and industry—including automobiles, home electric appliances, building materials, housing, beverage cans, and transformers. Economic growth in the emerging countries and other parts of the world has spurred an expansion in steel sheet use.

By its speedy response to a wide range of needs and its rich line-up of products, NIPPON STEEL is renowned for its coated steel sheets. NIPPON STEEL develops and markets high-performance steel materials capable of responding to increasingly stringent needs, such as growing concern for the environment and energy conservation.

Coated steel sheets, in particular, are required to possess not only rust resistance but press formability, weldability, paintability, and various other properties as well. In addition to metallurgy, a growing diversity of other technologies is indispensable for meeting these needs. They include electro-chemistry, thin-film engineering, paint engineering, interface engineering, corrosion science, thermal technology, and alloying control (diffusion) technology. In the case of coated steel sheets, if any of these technologies is lacking, customer needs cannot be fulfilled.

NIPPON STEEL has outstanding command of these various elemental technologies and continues to develop products that precisely meet the performance requirements of its customers.

Notable Coated Steel Sheets

- **Coated steel sheets**
  - Advanced control over the coating atmosphere secures adhesion of the base metal, thereby ensuring high workability. These products are used mainly in home electric appliances and building materials.

- **Electrolytic zinc-coated steel sheet and strip**
  - The surface texture is uniform and beautiful. The lack of heat treatment during the coating process helps to retain the properties of the base metal. These products are used mainly in home electric appliances for indoor use.

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# Lineup of Coated Steel Sheets of NIPPON STEEL

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<thead>
<tr>
<th>Type</th>
<th>Brand name</th>
<th>Coating structure (representative example)</th>
<th>Coating mass (g/m²)</th>
<th>Plate Thickness (mm)</th>
<th>Width (mm)</th>
<th>Features</th>
<th>Post treatment</th>
<th>Main applications</th>
<th>Introduction page</th>
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<tr>
<td>Hot-dip galvannealed steel sheet and strip</td>
<td><strong>DURGRIP™</strong></td>
<td>Zinc (Zn)</td>
<td>30</td>
<td>0.5</td>
<td>610</td>
<td>Coating resistance</td>
<td>○</td>
<td>Automobile outer and inner panels, home appliances, structural member (structural steel, automatic vending machines)</td>
<td>6</td>
</tr>
<tr>
<td>Hot-dip galvanized steel sheet and strip</td>
<td><strong>DURGRIP™</strong></td>
<td>Zinc (Zn)</td>
<td>60</td>
<td>0.23</td>
<td>580</td>
<td>Coating resistance</td>
<td>○</td>
<td>Structural member (base, oil spray on bends), home appliances, automotive outer and inner panels, automotive outer and inner panels, automatic winding machine</td>
<td>7</td>
</tr>
<tr>
<td>Hot-dip zinc-aluminum-magnesium-silicon-alloy coated steel sheet and strip</td>
<td><strong>SuperDyma™</strong></td>
<td>Zn-Al-Mg-Si</td>
<td>60</td>
<td>0.27</td>
<td>580</td>
<td>Coating resistance</td>
<td>○</td>
<td>Structural member (base, oil spray on bends), home appliances, automotive outer and inner panels, automatic winding machine</td>
<td>8</td>
</tr>
<tr>
<td>Hot-dip aluminum-coated steel sheet and strip</td>
<td><strong>ALSHEET™</strong></td>
<td>Al-Si alloy</td>
<td>40</td>
<td>0.3</td>
<td>610</td>
<td>Coating resistance</td>
<td>○</td>
<td>Automobile exhaust system parts, heating equipment, automotive exhaust system parts, fuel injection system</td>
<td>9</td>
</tr>
<tr>
<td>Sn-Zn coated steel sheet and strip</td>
<td><strong>ECOKOTE™-S</strong></td>
<td>Sn-Zn alloy</td>
<td>30</td>
<td>0.3</td>
<td>610</td>
<td>Coating resistance</td>
<td>○</td>
<td>Fuel tank</td>
<td>10</td>
</tr>
<tr>
<td>Electrolytic zinc-coated steel sheet and strip</td>
<td><strong>ZINKOTE™</strong></td>
<td>Zinc (Zn)</td>
<td>10</td>
<td>0.4</td>
<td>600</td>
<td>Coating resistance</td>
<td>○</td>
<td>Automotive outer and inner panels, home appliances, mechanical/road structure</td>
<td>11</td>
</tr>
<tr>
<td>Electrolytic zinc-nickel alloy-coated steel sheet and strip</td>
<td><strong>DURZINKLITE™</strong></td>
<td>Zn-Ni alloy</td>
<td>10</td>
<td>0.4</td>
<td>600</td>
<td>Coating resistance</td>
<td>○</td>
<td>Automotive outer and inner panels, home appliances, structural member (structural steel, automotive fuel parts)</td>
<td>13</td>
</tr>
<tr>
<td>Zn-Sn-Ni alloy coated steel sheet and strip</td>
<td><strong>ECOTRIO™</strong></td>
<td>Zn-Sn-Ni alloy</td>
<td>4</td>
<td>0.15</td>
<td>580</td>
<td>Coating resistance</td>
<td>○</td>
<td>Automotive outer and inner panels, home appliances, structural member (structural steel, automotive fuel parts)</td>
<td>14</td>
</tr>
<tr>
<td>Nickel Coated Steel Sheet and strip</td>
<td><strong>SUPERNICKEL™</strong></td>
<td>Fe-Ni alloy Ni layer</td>
<td>1</td>
<td>0.15</td>
<td>25</td>
<td>Coating resistance (particularly after forming)</td>
<td>○</td>
<td>Battery, heating equipment, automotive outer and inner panels</td>
<td>15</td>
</tr>
<tr>
<td>Precoated steel</td>
<td><strong>ZINKOTE™ COLOR</strong></td>
<td>Titanium Zn</td>
<td>10</td>
<td>0.4</td>
<td>600</td>
<td>Coating resistance</td>
<td>○</td>
<td>Home appliances, automotive outer and inner panels, home appliances, structural member (structural steel, automotive fuel parts)</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td><strong>VIEWKOTE™</strong></td>
<td>Paint Zn</td>
<td>10</td>
<td>0.3</td>
<td>25</td>
<td>Coating resistance</td>
<td>○</td>
<td>Home appliances, automotive outer and inner panels, home appliances, structural member (structural steel, automotive fuel parts)</td>
<td>16</td>
</tr>
</tbody>
</table>

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Information about environmental load chemical substances contained in the products of NIPPON STEEL is supplied in the form shown below:

1) Material Safety Data Sheet (MSDS)
2) Information about specified chemical substance content (supplementary MSDS)
3) Specified Chemical Substances Data Sheet (SSDS)

For more details, please confirm by accessing our website: [www.nipponsteel.com](http://www.nipponsteel.com)
**DURGRIP™**

**Hot-dip galvannealed steel sheet and strip**

**Main Characteristics**
- Excellent paint adhesion and weldability—provided by reheating the zinc-iron alloyed layer produced by heating
- Exceptional post-coating corrosion resistance
- Excellent press-formability, ranging from bending to deep drawing
- Availability of sheet with highly lubricative film treatment

**Typical Properties**

**Press Formability**
The application of lubricative film treatment imparts good press formability.

**Weldability**
The resistance weldability of galvanized steel sheet, in contrast to that of cold-rolled steel sheet, generally requires appropriate welding conditions in the region of high heat input. This is because zinc is a soft metal that easily conforms to the partner metal and because zinc’s low melting point causes it to melt and spread out during the initial welding stage, thereby resulting in lower current density. Consequently, less heat is generated in the overlapped areas.

**Direct Spot Weldability**
The appropriate welding conditions for coated steel sheets are shown in the figure below. Adequate welding current regions for coated steel sheets are higher than those for cold-rolled steel sheets.

**Example of Appropriate Welding Conditions for Galvanized Sheet**

**Welding pressure [Kg] / Weld time [sec]**

**Corrosion Resistance Mechanism of Conventional Chromate Treatment and Chromate-free Coating Film**

- **Structure and Function of Coating Films**
  - **Chromate Coating Film**
    - Zinkote (galvanized)
    - Zinkote (lubricated)
    - Chromate-free Special Film
  - **Chromate-free Coating Film**
    - Coating film
    - Zinc coating layer
    - Steel sheet

- **Function of Chromate Coating Film**
  - Effects similar to those offered by special coating film containing corrosion-suppression agent

**Zinc Coating Mass and Corrosion Resistance**
As the zinc coating mass increases, the corrosion resistance of the hot-dip galvanized sheet is extended.

**Main Applications**
- Civil engineering structure and building construction
- Structural frameworks for buildings
- Shipbuilding
- Electric appliances
- Refrigerator, washing machine, heating equipment, air conditioner, automatic vending machine, showcase parts
- Industrial machinery
- Container for transporting agricultural products, various parts requiring corrosion resistance
SuperDyma™
Hot-dip zinc-aluminum-magnesium-silicon alloy coated steel sheet and strip

Main Characteristics
- With remarkably high corrosion resistance compared to hot-dip galvanized steel sheet, inhibits corrosion resistance in cut-end surfaces
- Strong alkaline resistance even in direct contact with mortar and concrete
- Superior substitute for stainless steel (weak in chlorine resistance) and aluminum (weak in alkaline resistance)
- Availability of chromate-free sheet having properties similar to those of chromate-treated sheet

Typical Properties
Coating Layer Composition and Corrosion Resistance
Salt Spray Tests

1. Availability
2. With corrosion rate) is extremely high — about 30 times that of hot-dip Zn-coated sheets.

Ministry of Land, Infrastructure and Transport” Excerpts from No.342 test results certificate of special evaluation method certificate of the Comparision of the plating corrosion loss (Result of outdoor exposure tests) (Salt Spray Tests)

Coating Layer Composition and Corrosion Resistance
Hot-dip Zn-coated sheet
Hot-dip aluminum-coated sheet
SuperDyma®

SuperDyma K18
Hot-dip Zn-coated sheet
Salt Spray Test Result (Chrysler’s Spec 461H-83)

Corrosion Protection Mechanism on Cut-end Surfaces and at Welded Sections
• Corrosion Protection Mechanism at Cut-end Surfaces

ALSHEET™
Hot-dip aluminum-coated steel sheet and strip

Main Characteristics
- Outstanding weather resistance and corrosion resistance
- Discoloration and high thermal resistance in high-temperature application
- Excellent high-temperature heat reflectivity, compared to hot-dip galvanized steel sheets

Typical Properties
Thermal Resistance
The surface appearance of ALSHEET at high temperatures is far superior to that of hot-dip galvanized steel sheet or that of cold-rolled steel sheet. No surface discoloration occurs at 350°C or under. At temperatures above that, the surface becomes an Al-Fe alloy, causing a discoloration. However, this conversion to an alloy prevents oxidation of the base metal, helping to retain the steel sheet’s thermal resistance.

• An example of surface conditions after heating (300°C × 200 hours)
When heated at temperatures below 350°C, ALSHEET undergoes no surface discoloration, retaining its beautiful appearance.

Corrosion resistance
Because ALSHEET, like aluminum, easily generates fine yet stable oxide and hydroxide films in the atmosphere and in water, its corrosion resistance under various conditions is superior to that of galvanized steel sheets. In application, however, it should be borne in mind that, contrary to galvanized steel sheet, galvanic action (sacrificial action) cannot be expected of ALSHEET.

• Cyclic wetting and drying tests (Resistance to exhaust gas corrosion)
As a result of corrosion tests using automobile exhaust gas-condensed simulated fluids, ALSHEET demonstrates better corrosion resistance than do electrogalvanized steel sheets and cold-rolled steel sheets.

Example of Muffler Test Result (Chrysler’s Spec 461H-83)

Heat reflectivity
Because of its extremely beautiful surface, ALSHEET shows exceptional heat reflectivity — nearly 80% at temperatures of 400°C or below. Accordingly, ALSHEET is ideal for use in applications requiring heat reflectivity, including the inner heat shields for toasters and the upper reflectors for gas ovens and kerosene heaters.

Example of Heat Reflectivity of Various Materials

Chemical resistance
Unlike zinc, aluminum has the property of being resistant to weak acidity and vulnerable to alkalinity.

Main Applications
- Hot-water system
- Oven toaster
- Bread machine
- Stove
- Fan heater
- Cloth dryer
- Automobile (muffler, manifold cover, converter cover)
ECOKOTE™-S
Sn-Zn coated steel sheet and strip

Main Characteristics
• Higher corrosion resistance than found in conventional fuel tank metallic materials
• High corrosion resistance, even when used with bio fuels
• Meets hydrocarbon permeation regulations; is free of environmental load substances
• Highly recyclable

Typical Properties
Responsiveness to Environmental Preservation: ECOKOTE™-S is most suitable for use as an eco-friendly fuel tank material.

Characteristic Properties of Fuel Tank Material

<table>
<thead>
<tr>
<th>Property</th>
<th>ECOKOTE™-S (Sn-Zn coating)</th>
<th>ALSHEET™ (Aluminum coating)</th>
<th>TERNESHEET (Pb-Sn coating)</th>
<th>Resin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulation for upper limit for fuel permeation</td>
<td>No fuel permeation because of steel sheet</td>
<td>High permeability because of steel sheet</td>
<td>Inferior permeation shut-off performance</td>
<td></td>
</tr>
<tr>
<td>Promotion of recycling</td>
<td>High recyclability because of steel sheet</td>
<td>Inferior recyclability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lighter weight</td>
<td>Lighter weight by use of steel’s rigidity instead of identical capacity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regulation for environmental burden substance</td>
<td>No inclusion of environmental burden substance</td>
<td>Use of lead</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increasing use of eco-friendly fuel</td>
<td>Outstanding high corrosion resistance</td>
<td>Corrosion due to using zinc alloy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inner surface corrosion resistance</td>
<td>Degraded gasoline</td>
<td>Degraded 20%PAME* mixed gasoline</td>
<td>Degraded ethanol-mixed gasoline</td>
<td>Outer surface corrosion resistance</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Film</th>
<th>Required performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic film</td>
<td>High formability and lubricity due to surface film action</td>
</tr>
<tr>
<td>Inorganic film</td>
<td>Excellent conductivity and adhesion because of thin film thickness</td>
</tr>
</tbody>
</table>

Corrosion Resistance
Salt Spray Test: Flat Surface Section and Formed Section (Erichsen 7 mm Extruded Section)

Main Applications
• Fuel tank

ZINKOTE™
Electrolytic zinc-coated steel sheet and strip

Main Characteristics
• Demonstrates similar effects in application as chromate-treated sheet due to ZINKOTE’s special film containing a corrosion inhibitor
• Availability of characteristic properties that conform to respective customer needs thanks to ZINKOTE’s diverse post-treatment lineup

Main Applications
ZINKOTE is a chromate-free electrogalvanized sheet used for flat panel displays, copying machines, printers and other devices and equipment.

Various Parts
Audio equipment, etc.
Side Plate
Refrigerator, washing machine, etc.

Conductivity (Grounding Property)

Example of Conductance Measurement to approached resistance

Constant current source

<table>
<thead>
<tr>
<th>Conducting rate (%)</th>
<th>Conducting rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GS1</td>
<td>QF1</td>
</tr>
<tr>
<td>GS1</td>
<td>QF1</td>
</tr>
</tbody>
</table>

Conductivity Test (Loresta 4 Prove Type)

Measurement: Loresta 4 Prove

Measurement: Loresta 4 Prove by Mitsubishi Chemical Corp.

Measurement: 4 conductive probe method, system

Measurement: current application system

Measurement: range 10⁻¹⁻¹⁰Ω

Probe: ESP probe

Conductivity: Conducting rate (%) × 100

Conducting resistance: Conducting rate (%) < Conducting rate (%) × 100

Example of Conductance Measurement to approached resistance (Loresta 4 Prove Type)
ZINKOTE™ COLOR
Pre-Coating Steel Sheet and Strip

**Main Characteristics**
- Excellent cost performance and reduced manufacturing term at user plant by coating only one side of ZINKOTE with a beautiful topcoat
- Available colors (3): black, silver and white, and preparation of improved scratch-resistant type
- Black coated sheets (2): both-sided black coated type, and high-conductivity/good heat-absorption type

**Product Lineup**

<table>
<thead>
<tr>
<th>Color</th>
<th>Type</th>
<th>Heat treatment symbol</th>
<th>Surface finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>Improved scratch-resistant type</td>
<td>Kj2</td>
<td>O</td>
</tr>
<tr>
<td>Silver</td>
<td>Improved scratch-resistant type</td>
<td>SJ2</td>
<td>D</td>
</tr>
</tbody>
</table>

**Main Applications**
- Home appliance
- AV equipment, electronic device
- OA equipment
- Housing equipment (interior, steel furniture)

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DURZINKLITE™
Electrolytic zinc-nickel alloy-coated steel sheet and strip

**Main Characteristics**
- Outstandingly high corrosion resistance even with conventional electrolytic galvanizing mass
- Fine appearance and finishing after coating, similar to cold-rolled sheet
- Easy spot and seam welding

**Typical Properties**

**Bare Corrosion Resistance**
In commonly conducted salt spray testing, the bare corrosion resistance of DURZINKLITE coated surfaces is more than 3 times greater than galvanized sheets with equal coatings. This product shows favorable corrosion resistance even with a thin coating mass, but the provision of a special chromate treatment further improves corrosion resistance.

**Example of Corrosion Resistance Assessment of DURZINKLITE (Non-treated Sheet Salt Spray Test)**

**Weldability**
Individual spot or seam welding of DURZINKLITE can be conducted using low welding current, and because the welding current range is wide, welding is easy.
Examples of single spot welding at a range of welding currents for both-side galvanized sheet are shown at right. In each case, adequate nuggets are formed using a comparatively low welding current, and the recommended range of welding currents is wide to allow easy welding.

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**Example of Welding Current Range for Single Sport Welding of Both-side Galvanized Sheet**

<table>
<thead>
<tr>
<th>Type</th>
<th>Welding current (kA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DURZINKLITE (20g/㎡)</td>
<td>1.5</td>
</tr>
<tr>
<td>ZINKOTE (20g/㎡)</td>
<td>1.5</td>
</tr>
<tr>
<td>DURGRIP (galvannealed) (45g/㎡)</td>
<td>2.0</td>
</tr>
<tr>
<td>Cold-rolled sheet</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Reference: Time required for the occurrence of red rust in the salt spray test JIS Z 2371
ECOTRIO™
Zn-Sn-Ni alloy coated steel sheet and strip

**Main Characteristics**
- Lead-free and chromium-free, and conforms to RoHS (Restriction of Hazardous Substances) Directive
- Greater suppression of whiskers compared to electrolytic tinplate
- solderability and conductivity that are similar to electrolytic tinplate and higher than those of galvanized steel sheet
- Availability of thin-gauge products with a minimum thickness of 0.15 mm
- NEW ECOTRIO even in thin coating mass specifications: Taking over the basic properties of ECOTRIO
- High-strength ECOTRIO. Cost-cutting substitute for nickel silver and stainless steel sheets

**Main Applications**
- Game console
- Automobile AV equipment
- TV set
- Personal computer
- Electric and electronic parts
- Audio system
- Switch metal fitting
- Electrical equipment
- Heat sink metal fitting
- Tuner cover
- Condenser case
- Shield cover
- Electrical equipment metal fitting
- Solder regulating valve
- Chromate-free special film

**Typical Properties**
- **Solder Wettability (Solder Wetting Time)**
- **Corrosion Resistance**
- **Chrome-free Coating Film**
- **Evaluation of Coating adhesion (workability)**
- **Surface Gloss**

SUPERNICKEL™
Nickel Coated Steel Sheet and strip

**Main Characteristics**
- High adhesion and corrosion resistance due to formation of Fe-Ni alloy layer
- Availability of material quality that conforms to the particular application and the degree of fabrication
- Diverse surface finishes are available, from an outstandingly fine mirror finish to a rough dull finish.
- Availability of coatings from thin to heavy and of differential coatings on front and rear surfaces
- Same thermal resistance as that of stainless steel

**Main Applications**
- Primary battery case, Secondary battery case
- Negative electrode collector for secondary battery
- Oven toaster reflector plate
- Fuel filler pipe and parts

**Typical Properties**
- **Surface gloss**
- **Corrosion Resistance**
- **Heat Resistance**

**Post-fabrication Corrosion Resistance**
External appearances of the top and body parts of size C and AA batteries made of SUPERNICKEL steel sheets and Ni-coated stainless steel sheets without alloy layer, after subjected to 80 minutes of salt spray tests show below:
- In both cases, batteries made of SUPERNICKEL steel sheet shows better post-fabrication corrosion resistance.
- Evaluation method: After SST (coating thickness: 2μm)
**VIEWKOTE™ Pre-Coating Steel Sheet and Strip**

**Main Characteristics**
- Smooth and fine painted surface
- Selection of colors and material properties that meet specific needs, through the combined use of diverse paints and base substrates
- Improved such factors as process, space, energy and load savings at user plant

[Paint type of VIEWKOTE]
- Type I / Highly workable type
- Type II / Balanced type in workability surface physical properties
- Type III / Stain-resistant type
- Type IV / Highly workable, stain-resistant type (universal type)
- Type V / Highly corrosion-resistant type

- **Coating structure (representative example)**

- **Typical Properties**

<table>
<thead>
<tr>
<th>Application</th>
<th>VIEWKOTE recommended specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lighting equipment</td>
<td>Reflecting board</td>
</tr>
<tr>
<td>Flat panel TV</td>
<td>Back panel</td>
</tr>
<tr>
<td>Digital recorder</td>
<td>Chassis</td>
</tr>
<tr>
<td>Auto on-board equipment</td>
<td>Chassis</td>
</tr>
</tbody>
</table>

- **Lighting equipment**
- **Flat panel TV**
- **Digital recorder**
- **Auto on-board equipment**

- **High Reflection Type VIEWKOTE**
  - Diffuse reflectivity of 92-98%.
  - Can be deep drawn.
  - Has excellent basic properties including corrosion and chemical resistance.
  - Both electromagnetic shielding and temperature control can be achieved by selecting heat absorption types with good electroconductivity in the back coating.
  - Chromate-free and eco-friendly.

- **Self-Cleaning Type VIEWKOTE**
  - Hydrophilic coating vastly improves resistance against rain drop stains.
  - Offers high workability thanks to optimal substrate design.
  - Also offers excellent weatherability and stain resistance in processed surfaces.
  - A wide range of color variations, including metallic tones.
  - Chromate-free and eco-friendly.

- **Antistatic Type VIEWKOTE**
  - Prevents static electricity caused by friction from conveyors and rubber suction disks in the processing/production process.
  - Reduces dust caused by static electricity.
  - Reduces electric shocks caused by static electricity.
  - Chromate-free and eco-friendly.

- **Orange-Peel-Surfaced VIEWKOTE**
  - A pebbled surface like that of an orange peel is achieved by special beads in the coating. These beads then melt during heating when the coating is enameled.
  - This coating improves processing yield by making handling scratches less visible.
  - Its workability, chemical resistance, and other basic properties are the same as conventional VIEWKOTE.
  - It can also include antistatic property.
  - Chromate-free and eco-friendly.

- **Typical Properties**

- **Premium Series**
- **Coating Structure (Example)**
- **Measurement of diffuse reflection factor (example)**

- **Coating Structure (Example)**

- **Paint type of VIEWKOTE**
  - Type I / Highly workable type
  - Type II / Balanced type in workability surface physical properties
  - Type III / Stain-resistant type
  - Type IV / Highly workable, stain-resistant type (universal type)
  - Type V / Highly corrosion-resistant type

- **Application**
  - **Application/party materials**
  - **VIEWKOTE recommended specifications**

- | Application | VIEWKOTE recommended specifications |
- |--------------|-------------------------------------|
- | Front side  | VIEWKOTE Type I                    |
- | Back side   | VIEWKOTE Type IV                   |
- | Side panel  | VIEWKOTE Type IV                   |
- | Back side   | VIEWKOTE Type I                    |
- | Front side  | VIEWKOTE Type IV                   |
- | Back side   | VIEWKOTE Type I                    |
- | Side panel  | VIEWKOTE Type IV                   |
- | Back side   | VIEWKOTE Type I                    |

- **Coating Structure (Example)**

- **Example: Comparison of charged voltage**

- **Example: Orange-Peel-Surfaced VIEWKOTE**

- **Antistatic Type VIEWKOTE**

- **Coating Structure (Example)**

- **Paint type of VIEWKOTE**
  - Type I / Highly workable type
  - Type II / Balanced type in workability surface physical properties
  - Type III / Stain-resistant type
  - Type IV / Highly workable, stain-resistant type (universal type)
  - Type V / Highly corrosion-resistant type

- **Application**
  - **Application/party materials**
  - **VIEWKOTE recommended specifications**

- | Application | VIEWKOTE recommended specifications |
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- | Front side  | VIEWKOTE Type I                    |
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- | Side panel  | VIEWKOTE Type IV                   |
- | Back side   | VIEWKOTE Type I                    |
- | Front side  | VIEWKOTE Type IV                   |
- | Back side   | VIEWKOTE Type I                    |
- | Side panel  | VIEWKOTE Type IV                   |
- | Back side   | VIEWKOTE Type I                    |

- **Coating Structure (Example)**

- **Example: Comparison of charged voltage**

- **Example: Orange-Peel-Surfaced VIEWKOTE**