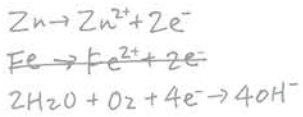
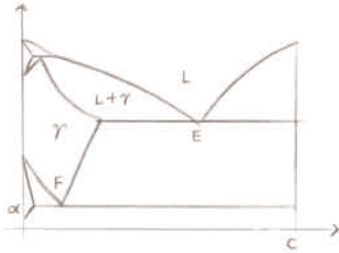
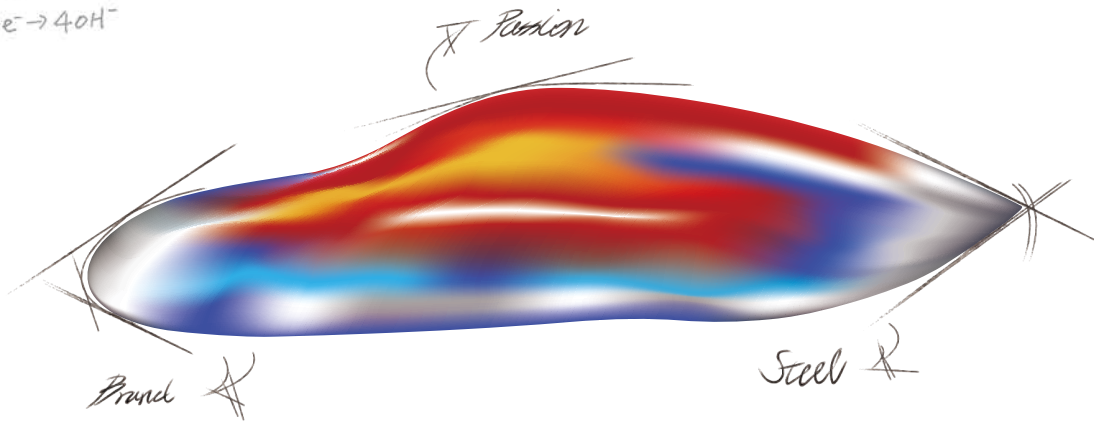


Products/Solutions

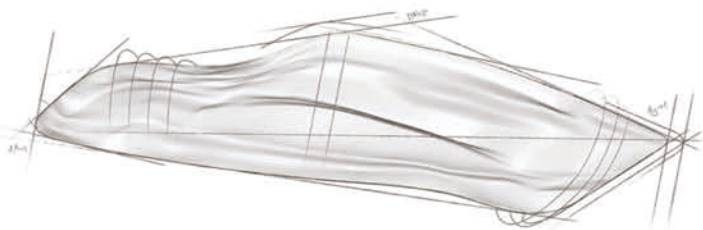
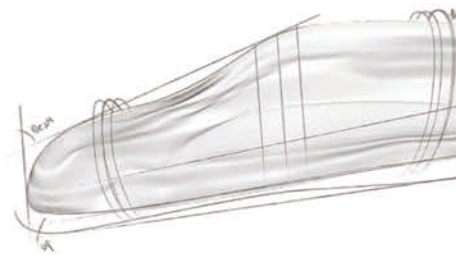
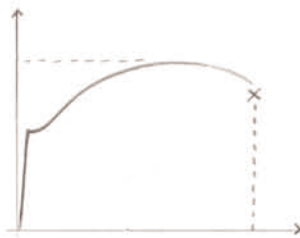
Designing the Future of Automobiles



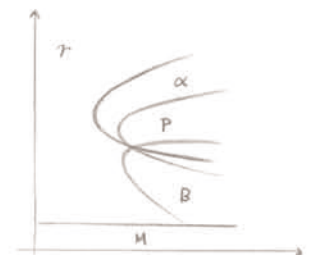
$$q = r \cdot \frac{I^2}{d^4}$$



$$D = D_0 \exp(-Q/RT)$$



$$\sigma = a(b + \epsilon)^n$$



Our Mission

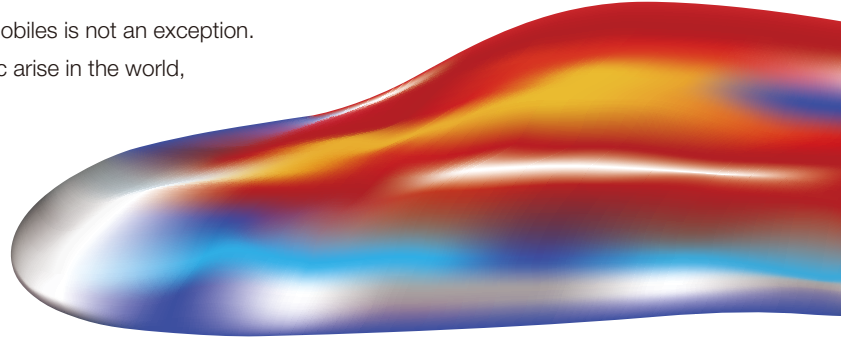
Designing the Future of Automobiles

Today, we live in an era of dramatic changes, and the world of Automobiles is not an exception. As new ideas such as Connected, Autonomous, Sharing, and Electric arise in the world, we wonder how we can continuously contribute to this evolving automotive industry.

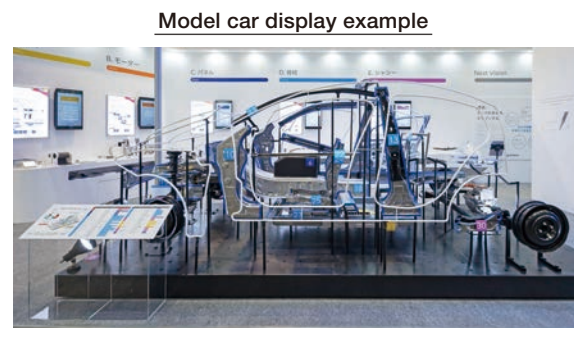
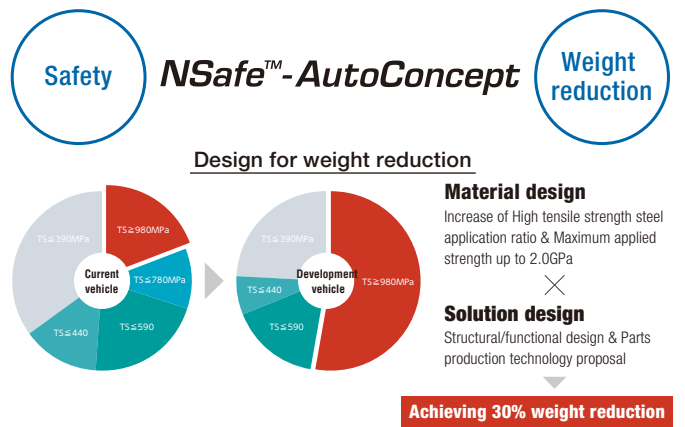
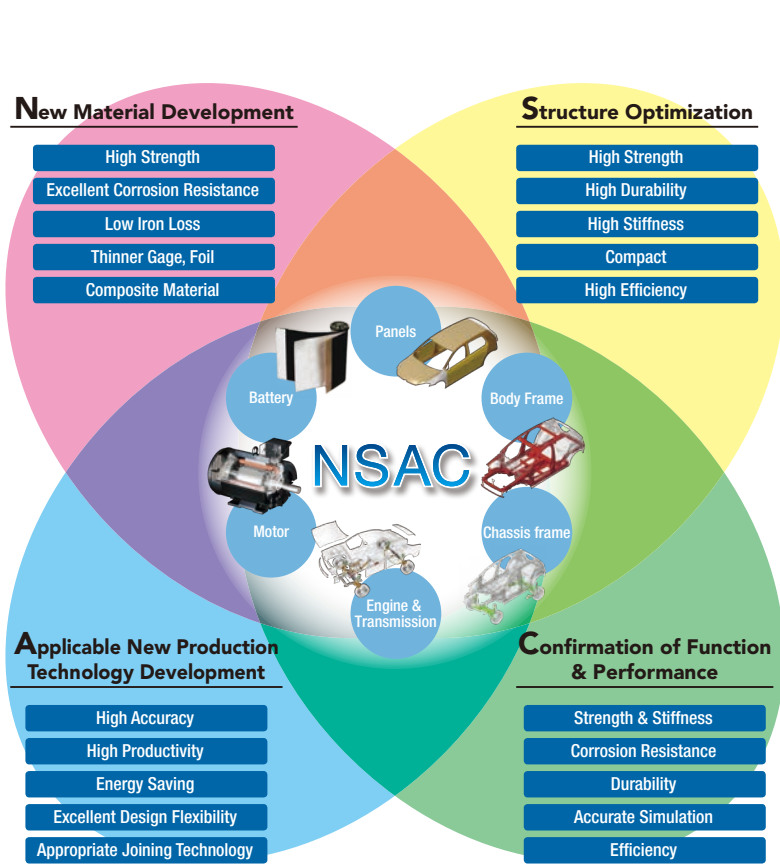
Steel is a material with infinite possibilities. NSC is committed to maximize its potential and development of multi-material solutions centered around steel.

NSC provides comprehensive solutions suitable for Automobiles of the new era, by evolving not only the material itself, but also its related technologies for structure design and manufacturing processes.

It is our mission to become a partner who envisions and co-designs every possible future around Automobiles, even the life style of passengers, streetscapes, and the global environment.



Designing future Automobiles with advanced ultimate steel materials, unique parts structure and parts production technology solutions provided by the expert in material manufacturing.




Comfort Nippon Steel developed a concept of future Automobiles by using advanced steel materials and solution technology, and manufactured conceptual parts that are assembled to build a model car named **NSafe™ - AutoConcept**. **Environment friendly**

Advanced Products/Technologies that Support Future Car Bodies

A Panels

Highly-lubricating L-treated Steel Sheet (GA)

The range of forming has been extremely improved by adding a highly-lubricating quality. Contributes to the application of difficult-to-formed parts.



SuperDyma™, ZAM™

Excellent corrosion resistance both on flat surfaces and on cut-end allows eliminating post-painting.

Labels: Durability, High Productivity

B Body Frame

Ultra High Tensile Strength Steel with Good Formability

980TRIP CR/GA, 980DP CR/GA, 1180TRIP CR/GA, 1180DP CR/GA, 1310DP CR

TS≥980MPa High strength steel for framework of automotive body with high formability.

Labels: Weight reduction, Safety

Test component after axial crush deformation

High strength steel sheet for energy absorption structures

High strength steel sheets (TS≥980MPa) suitable for crush parts of body structure with excellent bending fracture resistance.



Labels: Weight reduction, Safety

Steel Sheets for Hot Stamping

1500HS HR/CR/GA/GI/AI, 1800HS CR

Hot stamp process shows excellent accuracy by lower forming load at stamping, and achieves a strength of more than TS1500 after the quenching process.

Labels: Weight reduction, Safety

Tailored welded blank of aluminum coated steel sheet for hot stamping

Achieved high joint strength of the weld metal with our originally developed technology to avoid the joint strength deterioration caused by entering of aluminum into the weld metal.

Labels: Weight reduction, Safety

Ultra High Tensile Easy-to-form Technology (NSafe™ Form series)

Group of methods that allow forming of ultra high tensile strength steel to be done with conventional press machines. Low pressing load, high yield, etc. realized by bending and special dies.

Labels: Weight reduction, High Productivity

Continuous Flange Forming Technology

Method that allows continuous flange forming of the edges of parts to be done even with high tensile materials.

Labels: Weight reduction, Safety

Rapid Cooling Technology for Hot Stamping (Direct water quenching technology)

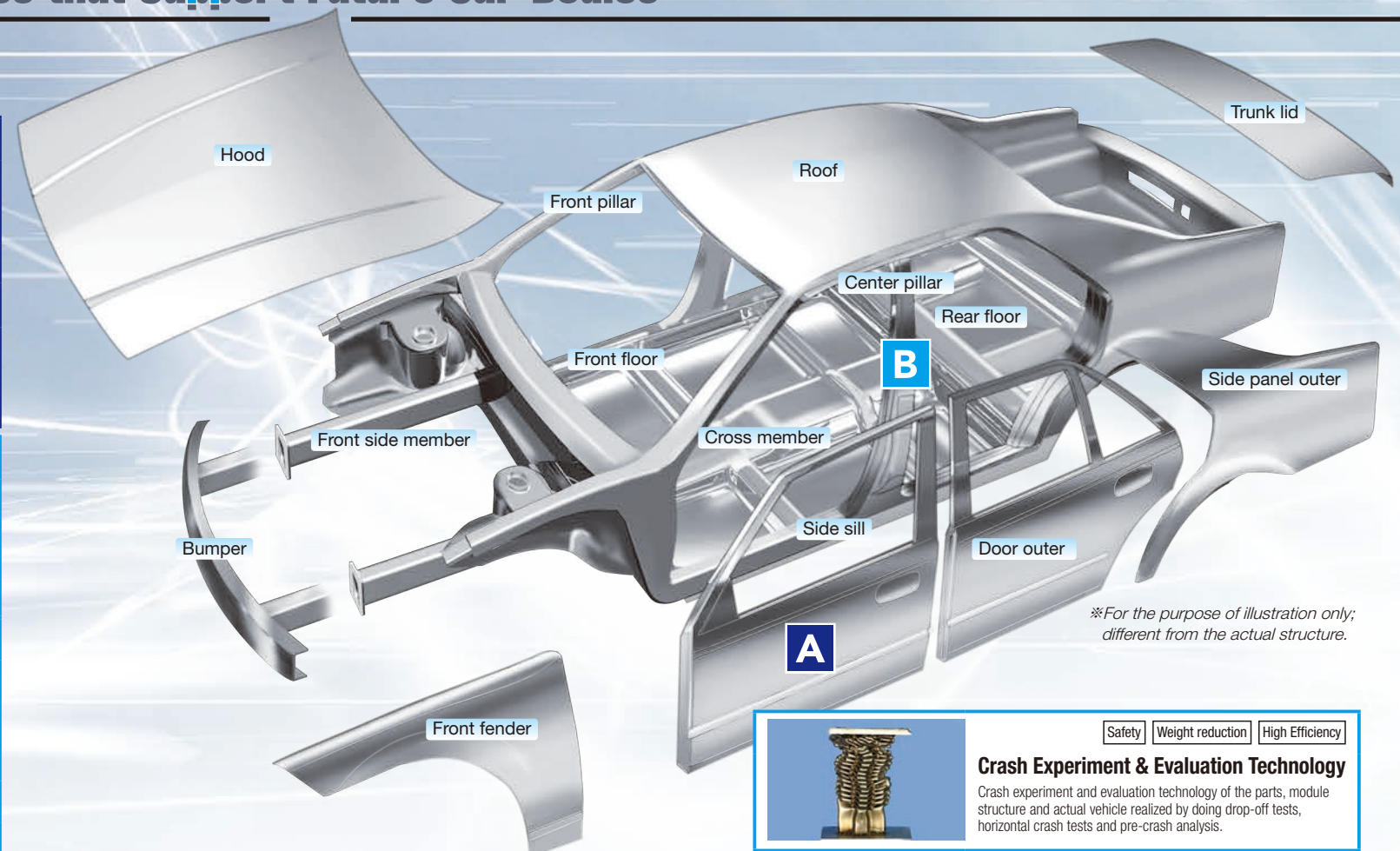
Method that shortens the amount of time needed for tempering by flushing water between the die surface and steel sheet by directly cooling the steel sheet with water.

Labels: Weight reduction, High Productivity, High Efficiency

Spot Welding Analysis Technology

Analysis technology that can predict with high precision from nugget formation to expulsion based on the abundant material data and original analysis model.

Labels: Weight reduction, Safety



*For the purpose of illustration only; different from the actual structure.

Welding Technology for Ultra High Tensile Steel Sheets

Respective welding methods (spot, arc, laser, etc.) and welding requirements of high tensile materials based on our wealth of knowledge are proposed that meet the needs of our customers.

Labels: Weight reduction, Safety, Durability

3DQ Technology

Technology that attains high tensile strength and a 3D shape through simultaneous processing of heating, bending and quenching.

Labels: Weight reduction, Compact, Safety

High-performance TWB Processing Equipment

TWB processing equipment that realizes the world's best high productivity and high quality.

Labels: Weight reduction, Safety

NIPPON STEEL TEXENG. CO., LTD.

Hot Stamping, 3DQ Parts Manufacturing Equipment

Parts manufacturing equipment that utilizes hot stamping and 3DQ technology.

Labels: Weight reduction, Safety

NIPPON STEEL TEXENG. CO., LTD.

High-precision Forming Analysis Technology

High-precision forming analysis technology realized by predicting springback, cracks on the edges, surface strain, etc. through analysis based on accurate material characteristic data.

Labels: Weight reduction, High Productivity, High Efficiency

High-precision Crash Analysis Technology

High-precision crash analysis technology realized by using both accurate material characteristic data and the company's original fracture (base material, spot welding) predicting model "NSafe™-SPOT/MAT."

Labels: Weight reduction, Safety, High Efficiency

Crash Experiment & Evaluation Technology

Crash experiment and evaluation technology of the parts, module structure and actual vehicle realized by doing drop-off tests, horizontal crash tests and pre-crash analysis.

Labels: Safety, Weight reduction, High Efficiency

Actual Stiffness Measuring & Evaluation Technology

Torsional stiffness of actual vehicles and BIW can be measured by original developed equipment.

Labels: Quiet • Low-vibration, Weight reduction, High Efficiency

Advanced hydroforming technology

Widely applicable processing technology such as high pipe expansion, and simultaneous processing of fastening parts.

Labels: Weight reduction, Safety, Design

High Tensile Strength Steel with High-λ

HR 780λ, 980λ, CR 980λ, Hot original sheet GA 780λ

High tensile strength steel with excellent formability that has greatly improved the hole-expanding characteristic (burring capability).

Labels: Weight reduction, Durability, Safety

High Tensile Strength Steel for Good Design Wheels

HR 590DP, 780DP

Hot-rolled high tensile strength steel with a high design quality that has excellent fatigue-resistant property and press formability.

Labels: Weight reduction, Durability, Design

Steel for High Strength Suspension spring

High Strength Steel for Suspension Spring with both High Delayed Fracture Resistance and High Fatigue Strength.

Labels: Durability, Weight reduction, Compact

High Strength Wire rod for Steel Tire Cord

Wire Rod for Ultrafine Wire Drawing and Stranded with High Quality of Inclusion, Segregation and Surface.

Labels: Weight reduction

High durability crushed-tube torsion beam

Achieves excellent fatigue characteristics, weight reduction and cost performance with a closed cross-section structure.

Labels: Weight reduction, Durability

Steel Tube for Hollow Stabilizer

Thick-Walled and High-Strength Steel Tube of Excellent Fatigue Characteristic.

Labels: Weight reduction, Durability

Compact HF Equipment

Compact hydroforming equipment that saves resources and space

Labels: High Productivity

NIPPON STEEL TEXENG. CO., LTD.

High Strength Steel with Electric Induction Heating

High Strength and High Torsional Strength Steel for CVJ outer race and shafts.

Labels: Weight reduction, Compact

Super Forge Steel

Cold Forging Steel with High Workability for Suspension Parts, CVJ outer race and Shafts.

Labels: High Productivity

Airbag inflator tubes

Seamless steel tubes for airbag inflator of side impact collision with high dimensional accuracy, high strength and good toughness by induction hardening.

Labels: Safety

High Strength Micro Alloying Steel

High Strength Micro Alloying Steel for Hot Forging, Crankshaft, Connecting Rod, Suspension System and so on.

Labels: High Productivity, Weight reduction, Compact

High Strength Steel for Connecting Rod

High Strength Steel for Connecting Rod with both High Strength and Fracture Splitting Ability by Controlling Precipitation Metallurgy.

Labels: High Productivity, Weight reduction, Compact

Wire Rod for Low Fuel Consumption Torque Converter Spring

Wire Rod for Low Fuel Consumption Torque Converter Spring with Excellent Inclusion Quality and High Durability.

Labels: Durability, Quiet • Low-vibration

High Strength Steel for Gear

Optimum Steel for Gear with High Pitting Resistance (for Transmission application) and High Impact Strength (for Differential Gear application).

Labels: Durability, Weight reduction, Compact

High Strength Steel for CVT Pulley

High Strength Steel for CVT Pulley and Sheave with Wear Resistance and High Pitting Resistance.

Labels: Durability

Quiet • Low-vibration | Weight reduction | Compact




Nitriding Steel for Gear
Nitriding Steel for Transmission Gear with Lower Heat-Treatment Distortion and High Durability.

Weight reduction | Compact



Steels for High Strength Fastener
High Strength Fastener (12-16T) superior in Delayed Fracture Resistance.

Weight reduction | Design | High Productivity



Titanium alloy for mufflers
Super-TiX™ 10CU (NB) shows high strength and anti-oxidation resistance at elevated temperatures in addition to superior cold workability.

Compact | Durability | Weight reduction



High Performance Forged Crankshaft
Die forged Crankshaft for automobiles or light duty/large vehicles. Developing best material and crankshaft design to meet various customers' needs such as "Light Weight", "Low Noise/Vibration" or "High Strength".

Weight reduction | Durability




Stainless Steel for High-temperature Exhaust Manifold
High temperature high strength stainless steel can reduce the thickness and the weight reduction of exhaust manifold.

Weight reduction | Compact | Durability



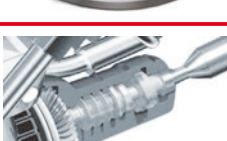
Ferritic Stainless Steel for EGR-cooler
Application of high thermal conductivity ferritic steel grades achieves efficient heat exchange and realizes downsizing of EGR-cooler.

Durability | High Productivity | Compact



High-carbon Steel Plate
Highly-functional high tensile strength steel with excellent formability, abrasion resistance and quenching quality.

Durability | High Productivity



Steel sheet suitable for gas nitrocarburizing process
Steel sheet with excellent surface hardness and fatigue strength obtained by gas nitrocarburizing process.

Durability | High Efficiency



High Strength Steel for Common Rail
Steel for Common Rail with High Internal Pressure Fatigue Properties that was essential to Clean Diesel.

High Efficiency

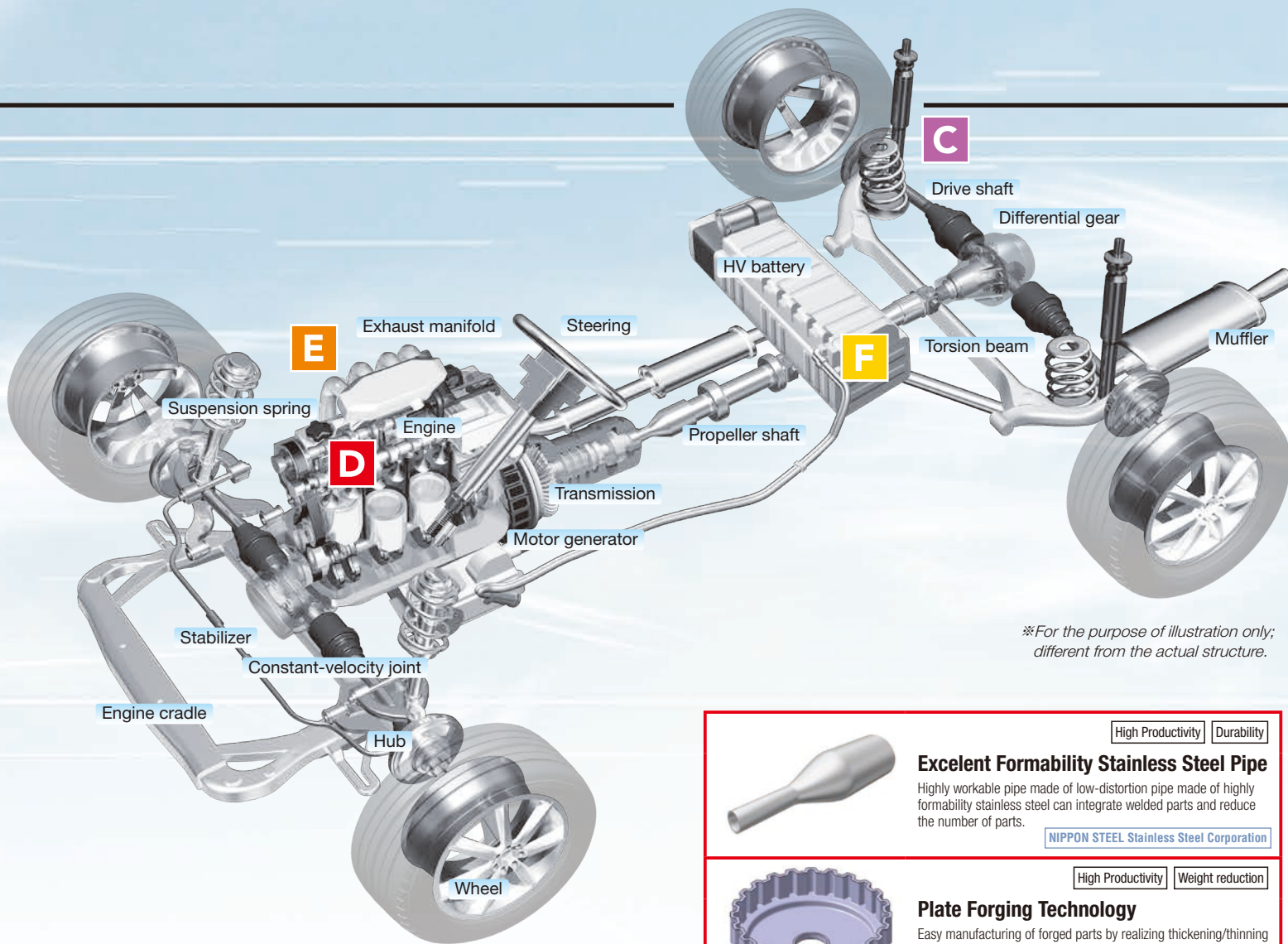


Fuel Injection pipe corresponding to Clean Diesel
Seamless steel pipes for high pressure fuel injection corresponding to cleaner exhaust gas.

Durability | Safety | High Efficiency



High fatigue strength stainless steels for gaskets
NAR-301L, HS1 and HSX, which show improved fatigue performance due to grain refinement, are applicable to gaskets of high grade engines.



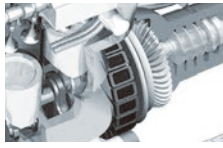
※For the purpose of illustration only; different from the actual structure.

E Motor | High Productivity | Weight reduction

Non-magnetic stainless steel
NAR-305G is not magnetized after deep drawing, which is applicable to cases of motors.

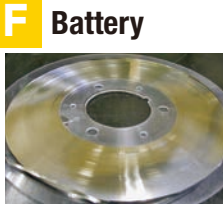
NIPPON STEEL Stainless Steel Corporation

High Efficiency



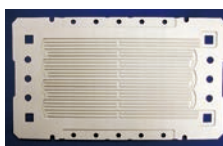
HILITECORE™
Non-oriented electrical steel sheet that achieves a good balance between low iron loss and high magnetic flux density and can efficiently convert electric energy into mechanical energy (torque).

F Battery | Durability | Safety



Commercially pure nickel for negative electrode of lithium ion batteries
NAR-305G is not magnetized after deep drawing, which is applicable to cases of motors.

High Efficiency | Durability



Stainless Steel for Fuel-cell Separator
Stainless steel with low contact resistance and high corrosion resistance can be applied as a separator material for fuel cells.

NIPPON STEEL Stainless Steel Corporation

Safety | Durability | Compact



“SUPERNICEL™”
Nickel pre-coated steel sheets for lithium ion battery cases.
Diffusion-type Nickel pre-coated steel sheet “Super Nickel” has both high corrosion resistance and high workability required for battery cell cases.

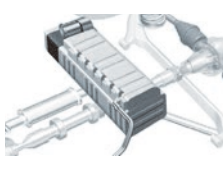
Quiet • Low-vibration | High Efficiency | Design



“GRANOC®”
Pitch-based Carbon Fiber and Carbon Fiber Reinforced Plastic.
Pitch-based carbon fiber “GRANOC®”, which is lighter than metal and has excellent thermal conductivity, and various Composite products with optimal properties.

NIPPON STEEL Chemical & Material Co., Ltd.

Durability | Safety



Rechargeable Battery Cell Charge-discharge Inspecting Technology
Provides the inspection line of HV and electric vehicle battery cells and evaluation equipment for development.

NIPPON STEEL TEXENG. CO., LTD.


Safety | Weight reduction | Compact



Stainless Steel Foils for LIB Current Collectors
The high strength (TS≥900) and the ultra-thin thickness (≤0.010mm) make high capacity and secure batteries possible, and lengthen battery life. Can be used for both cathodes and anodes.

NIPPON STEEL Chemical & Material Co., Ltd.

Durability | Safety | High Efficiency



Fast Charging Technology
Provides fast chargers for electric vehicles.

NIPPON STEEL TEXENG. CO., LTD.

High Productivity | Durability



Excelent Formability Stainless Steel Pipe
Highly workable pipe made of low-distortion pipe made of highly formability stainless steel can integrate welded parts and reduce the number of parts.

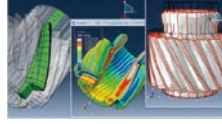
NIPPON STEEL Stainless Steel Corporation

High Productivity | Weight reduction



Plate Forging Technology
Easy manufacturing of forged parts by realizing thickening/thinning control through steel plate press processing.

High Productivity



Simulation of heat treatment distortion
Prediction Technique of Heat-Treatment Distortion using Simulating the Shape of Carburizing Gear and its Correct Material Data.

High Efficiency



“ESPANEX®” Copper Clad Laminate
High heat resistant polyimide is formed on copper foil. A flexible substrate material with excellent dimensional stability, good processability, and high reliability.

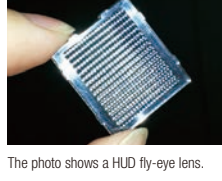
NIPPON STEEL Chemical & Material Co., Ltd.

Weight reduction | Design | Durability



Forged Aluminum Wheel for trucks and buses “Tough Bright”
improve fuel efficiency by weight saving, tough and stable quality, the most brilliance aluminum wheel for truck and buses.

Durability | Weight reduction | High Productivity



“ESDRIMER®” Optical Clear Resin for Lens
Thermosetting/Photosensitive transparent resin for lenses of automotive cameras and head-up displays, with excellent features: moldability, heat-resistance, chemical-resistance, etc.

The photo shows a HUD fly-eye lens.

NIPPON STEEL Chemical & Material Co., Ltd.

High Productivity



PLM (Product Lifecycle Management) Solution
System that can effectively share/utilize all information from automotive body, parts development, designing to manufacturing preparation. Contributes to QCD.

NS Solutions Corporation

Durability | Safety | High Productivity



High strength, heat resistant stainless steels containing low nitrogen
NAR-AH4, which shows high strength and anti-oxidation resistance at elevated temperatures, has been being applied to exhaust parts.

NIPPON STEEL Stainless Steel Corporation

High Efficiency | Weight reduction | Durability



Titanium alloy for engine valves
Super-TiX™ 523AFM shows high fatigue strength, which leads to improve response to acceleration, power and fuel consumption.

Safety | Weight reduction | Compact



Parment Magnetic Retarder
Compact & lightweight auxiliary brake contributing to safety and maintenance cost saving.


High Efficiency | Durability



Thin Foil Metal Substrate
High reduction efficiency and high durability realized by thin foils and special brazing. Used for exhaust purification converters.

NIPPON STEEL Chemical & Material Co., Ltd.

High Productivity



Near Net Shape Steel
Cold Forging Steel (Super Mild-Alloy, Mild-Alloy and Coarse Grain Preventing Steel) for Transmission Gear.

NIPPON STEEL CORPORATION Group's Domestic Network

: Automotive Bases Only

NIPPON STEEL CORPORATION

- A Head Office/offices/branches
- A Research laboratories
- F Works

NIPPON STEEL Stainless Steel Corporation

- B Head Office/offices/branches
- B Works

NIPPON STEEL Chemical & Material Co., Ltd.

- C Head Office/offices/branches
- C Works

NS Solutions Corporation

- D Head Office/offices/branches
- D Works

NIPPON STEEL TEXENG. CO., LTD.

- E Head Office/branches/sales offices
- E Works

NIPPON STEEL TECHNOLOGY CO., LTD.

- F Head Office/offices/branches
- F Works



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NS Solutions Corporation

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☎:+81-3-5117-4111 (main)

NIPPON STEEL TEXENG. CO., LTD.

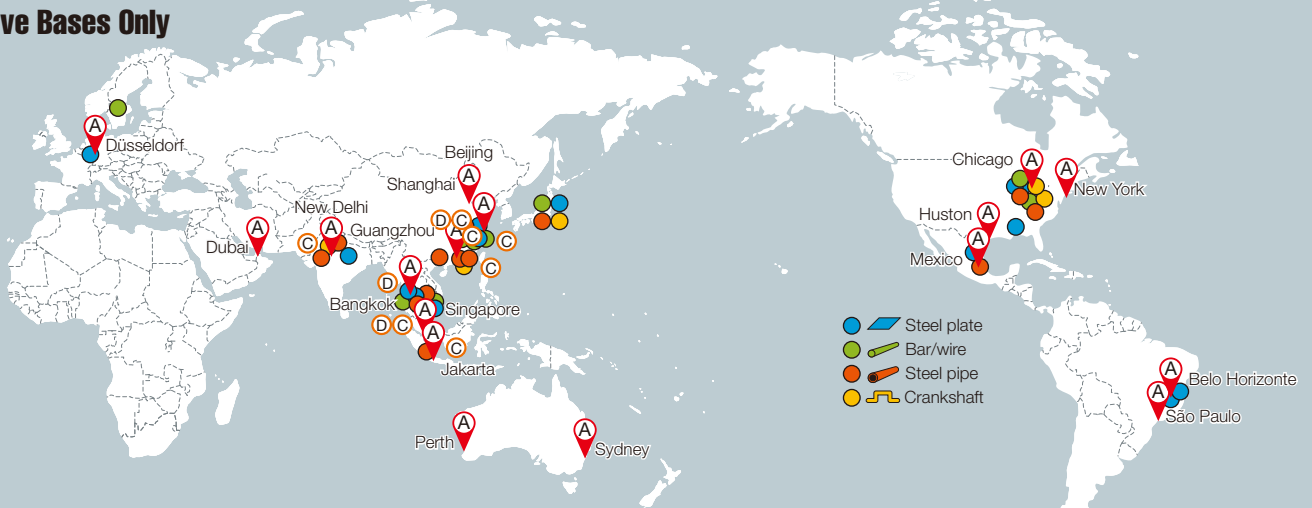
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☎:+81-3-6860-6600 (main)

NIPPON STEEL TECHNOLOGY CO., LTD.

3-3-3, Nakanoshima, Kita-ku, Osaka-shi, Osaka 530-0005
☎:+81-6-6225-0761 (main)

NIPPON STEEL CORPORATION Group's Overseas Network

: Automotive Bases Only



NIPPON STEEL CORPORATION

- A Offices/branches

NIPPON STEEL Stainless Steel Corporation

- B Offices/branches

NIPPON STEEL Chemical & Material Co., Ltd.

- C Offices/branches

NS Solutions Corporation

- D Offices/branches

NIPPON STEEL TEXENG. CO., LTD.

- E Branches/sales offices

Europe

- F ArcelorMittal*
*technical cross-license
- F Suzuki Garphyttan

India

- F Jamshedpur Continuous Annealing & Processing
- F Nippon Steel Pipe India
- F ANS Steel Tubes Limited
- F SMI-Amtek Crankshaft

Vietnam

- F Vietnam Steel Products
- F CHINA STEEL AND NIPPON STEEL VIETNAM JOINT STOCK Company

Thailand

- F NS-Siam United Steel
- F NIPPON STEEL Steel Processing (Thailand) Co., Ltd.
- F Thai Precision Products
- F Siam Nippon Steel Pipe
- F Thai Steel Pipe Industry

Indonesia

- F Indonesia Nippon Steel Pipe
- F PT KRAKATAU NIPPON STEEL SYNERGY

China

- F Baosteel-NSC Automotive Steel Sheets
- F NIPPON STEEL (NANTONG) METAL SHEET CO., LTD.
- F Suzuki Garphyttan
- F NBC China
- F Shanghai Neturen
- F Wuxi NSP Automotive Parts
- F Guangzhou You-Ri Automotive Parts
- F Guangzhou Asahi-Ns-Mit Automotive Parts
- F HUIZHOU NIPPON STEEL FORGING CO., LTD.

U.S.A.

- F AM/NS Calvert
- F I/N Tek
- F I/N Kote
- F Suzuki Garphyttan
- F INDIANA PRECISION FORGE
- F NIPPON STEEL COLD HEADING WIRE INDIANA INC.
- F Seymour Tubing
- F Nisshin Automotive Tubing LLC
- F International Crankshaft
- F NIPPON STEEL INTEGRATED CRANKSHAFT

Mexico

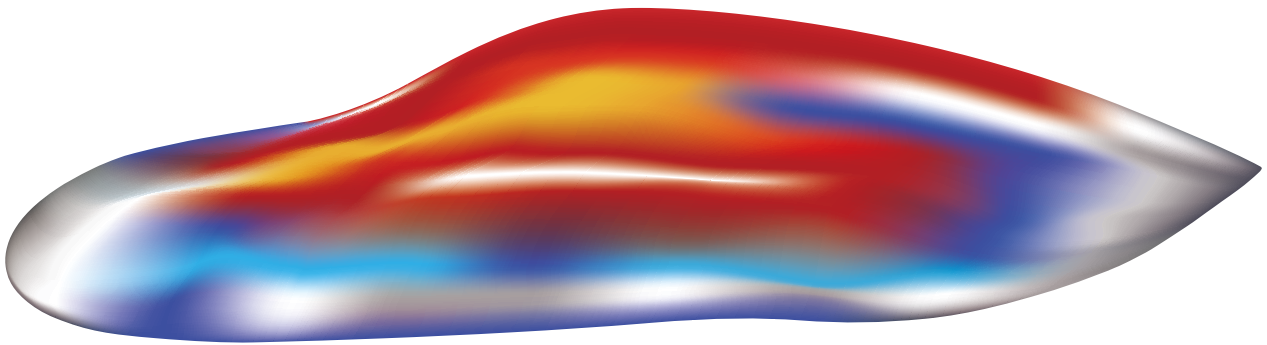
- F TENIGAL
- F Nippon Steel Pipe Mexico

Brasil

- F UNIGAL
- F USIMINAS



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