Wings of technology Spirit of innovation

UBE

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May 2010

Your High-Temperature Solution

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UBE INDUSTRIES,LTD.

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Company profile

GOSAT / Courtesy of JAXA

SALES
- **Approx. 320 billion of yen / $3.2 billion**

WORKFORCE
- **3,544**

ORGANIZATION
- **Chemicals & Plastics**
- **Specialty Chemicals & Products**
- **Pharmaceutical**
- **Cement & Construction Materials**
- **Machinery & Metal Products**
- **Energy & Environment**

UBE industries belongs to the UBE group, which employs 11,058 people and posted sales of 6.9 billion USD. UBE Industries has developed a whole range of polyimide products dedicated to the aeronautic and space industries.

Based in Japan UBE Industries operates worldwide and has subsidiaries in Europe and the United-States.

With its excellent stability under harsh environment and high heat resistance combined to great processability, this innovative range of products is paving the way for the new generation of aerospace materials.

Notes:
US dollar amounts are translated from yen, for convenience only.
At the rate of JPY 98= US$ 1, the approximate rate of exchange on March 31, 2009.

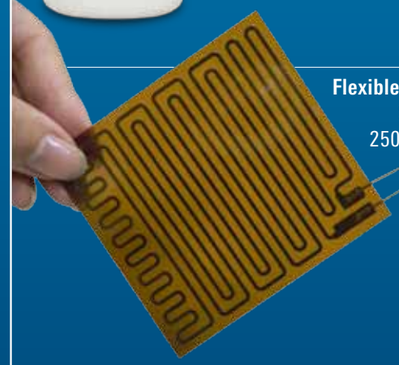
1. Thermal control materials

Thermal Control Films

Substrates: Upilex® -R, standard polyimide film
Upilex®-S, high- heat resistant polyimide film
Various coatings available: Aluminum, Germanium, ITO, SiO2
Surface treatment: Matt, Embossed, Perforated
Thermal Blanket for satellite (MLI)

UPI WHITE

High temperature, electrically conductive thermal control white paint for space use



UPILEX® HEATER

Flexible Heater, non-adhesive.
Service temperature of
250°C/482°F 300°C/572°F.

2.Foam

UPILEX® FOAM

Polyimide foam with very good thermal and acoustic insulation properties.
Tg of 400°C/752°F.

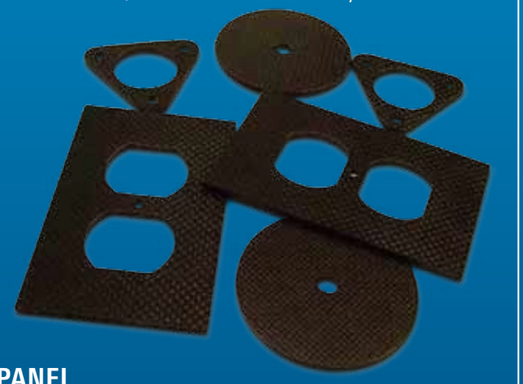
3.Composites

PETI-330

High-temperature matrix resin for RTM and RFI processes.
High Tg up to 330°C/626°F with simple and cost effective processability.
non toxic in the description

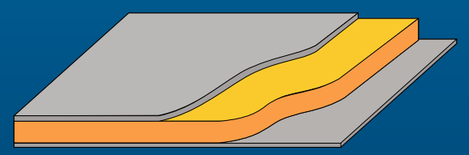
PETI-PLATE

Polyimide CFRP,
300°C/570°F High Temperature Operation, Tough, Micro-crack resistance, Thermo Oxidative Stability



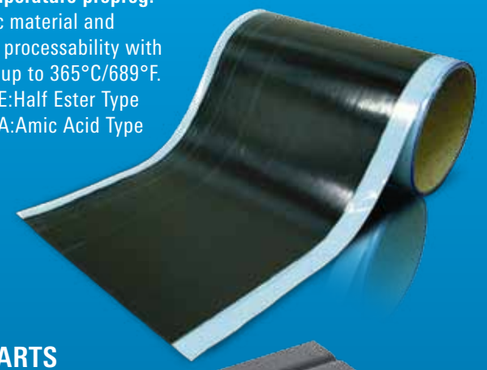
PETI-PANEL

Polyimide Foam Sandwich Panel,
300°C/570°F High Temperature Operation, Light weight, Density < 0.5g/cc,Fireproof



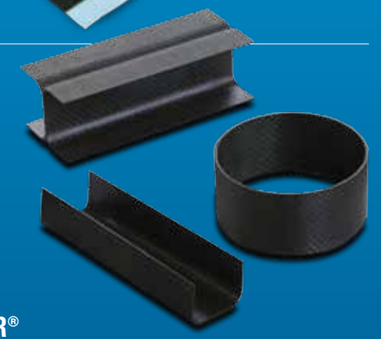
PETI-365E / PETI-356A

High-temperature prepreg.
Non-toxic material and excellent processability with cured Tg up to 365°C/689°F.
PETI-365E:Half Ester Type
PETI-365A:Amic Acid Type



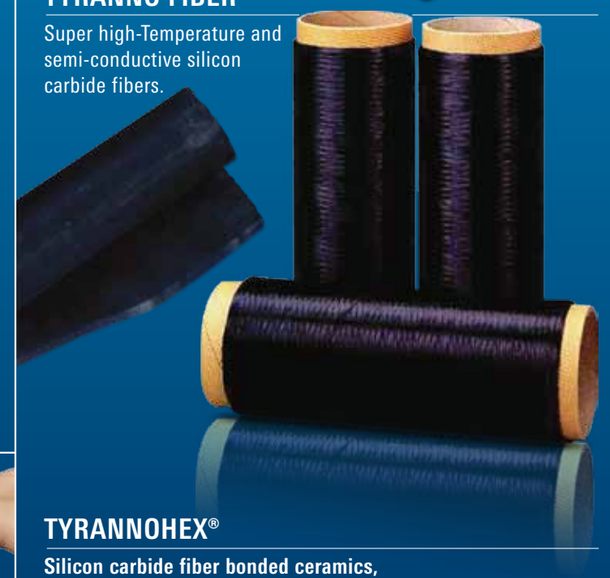
PETI PARTS

High-Temperature Polyimide Composite



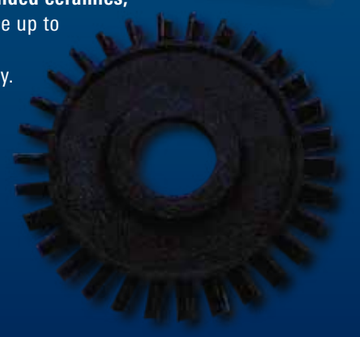
TYRANNO FIBER®

Super high-Temperature and semi-conductive silicon carbide fibers.



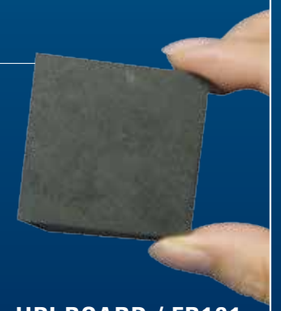
TYRANNOHEX®

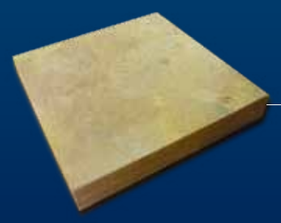
Silicon carbide fiber bonded ceramics,
ultra high-heat resistance up to 1,600 C/2,912°F with high thermal conductivity.



UPI CARBON

Light weight porosity carbon board with good air permebility





UPI BOARD / FB101

Cork like polyimide board having light weight and high temperature properties