

# 燃料電池セパレータ用NCチタン材

## Nano-Carbon composite coat titanium for fuel cell bipolar plates

### 効果 Advantage

- **表面導電性・耐食性**  
High corrosion resistance and surface conductivity → 燃料電池スタックの小型・高性能化  
Downsizing and higher performance of fuel cell stacks
- **成形性・コイルでの提供**  
High formability Supply in the form of a coil → お客様工程の生産性向上  
Improving productivity at the customer's production site

### ポイント Features

### NCチタンとは What is NC titanium?

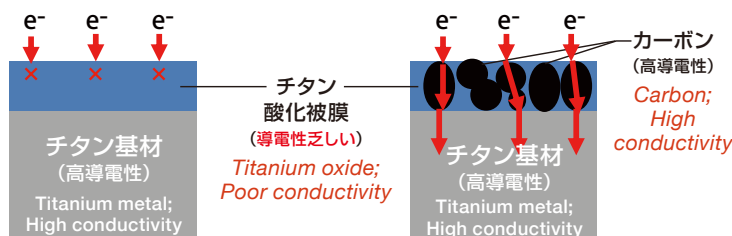
当社が開発し、世界で初めて量産化に成功した「Nano-Carbon composite coat チタン」の略称で、燃料電池セパレータに求められる耐食性、表面導電性、成形性等の性能を兼ね備えた表面処理チタン圧延材です。

NC titanium is the abbreviated name for nano-carbon composite coat titanium which Kobe Steel Ltd. succeeded in developing and mass producing for the first time in the world. It is a rolled and surface treated titanium strip with corrosion resistance, surface conductivity and formability required for a fuel cell bipolar plate.

### 高い表面導電性と耐食性 High corrosion resistance and surface conductivity

高い耐食性を持つチタンの酸化被膜中に、導電体であるナノサイズのカーボンを分散含有することで耐食性と表面導電性を両立。酸性環境下でも導電性を維持。

Dispersing nano-size carbon particles in a surface titanium oxide layer as a conductor, NC titanium permits both high corrosion resistance and surface conductivity.



#### 通常のチタン材 Conventional

耐食性は高いが表面導電性に乏しい  
High corrosion resistance but poor surface conductivity

#### NCチタン材 NC titanium

カーボンにより耐食性と表面導電性を両立  
High corrosion resistance and surface conductivity

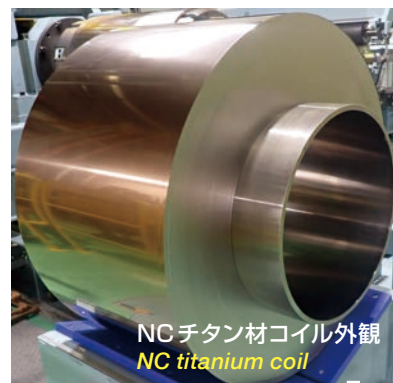
### プレス成形性とコイルでの提供 High formability and supply in the form of a coil

- 強固な酸化被膜と一体化しておりプレス成形も可能。
- コイルでの連続表面処理を実現。\*
- コイルでの提供が可能。

⇒ お客様工程での飛躍的な生産性向上に貢献

※当社機械事業部門の真空表面処理・設備技術も活用

- NC titanium has good adhesion to withstand press forming.
- By applying a continuous surface treatment process to the coil in advance, NC titanium contributes to a dramatic improvement in productivity at the customer's production site.
- In the development, we applied the vacuum surface treatment technology of the Machinery Department of Kobe Steel.



NCチタン材コイル外観  
NC titanium coil