

蓄電デバイス用CNT分散液

CNT dispersion for Battery

※いずれも開発値であり、保証値ではありません
These are developed values, not guaranteed values

特徴 | Characteristics

● TPR製ミリメートルオーダーCNTを使用した分散液

TPR CNT has millimeter length

→ 分散液中でも長繊維を維持

Keep long length in dispersion (About sub micrometer order)

● 水分散液は、

① 抵抗低減仕様と② 塗膜強度向上仕様の2種

Two specifications of water dispersion

"The resistance reduction ver." and "The strength improvement ver."

→ 活物質系によって分散液チューニングが必要

Need to tune the dispersion depending on the active material

● 有機溶媒種は各種対応が可能

Various organic solvent types are available

代表物性 | Representative property value

項目 Properties	純水 Pure water	Xylene
CNT濃度 Concentration of CNT	0.4 wt. %	0.2 wt. %
分散剤濃度 Concentration of dispersant	0.4 wt. %	0.6 wt. %
分散剤 Dispersant	CMC 他 Other	市販品 Commercial
粒度分布 D ₅₀ ^{※1} Particle Size Distribution D ₅₀	7.0~9.5 μm	40 μm
粘度(剪断速度 5/s) Viscosity (shear velocity 5/s)	400~1,200 mPa·s	920 mPa·s

※1:レーザー回折式湿式粒度分布計
Laser Scattering Particle Size Distribution Analyzer

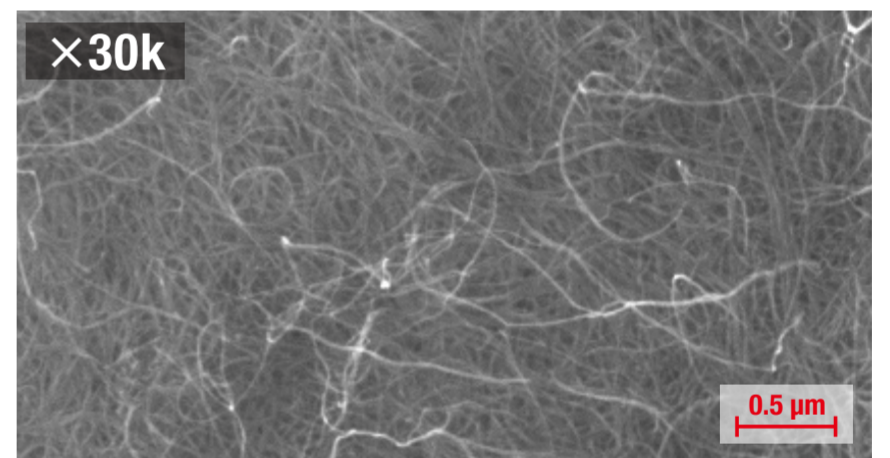
外観 | Appearance



0.4wt.% 水分散液
Aqueous dispersion@0.4wt.%-CNT



0.2wt.% xylene分散液
Xylene dispersion@0.2wt.%-CNT



(例) 分散液中のCNT
State of CNT in dispersion

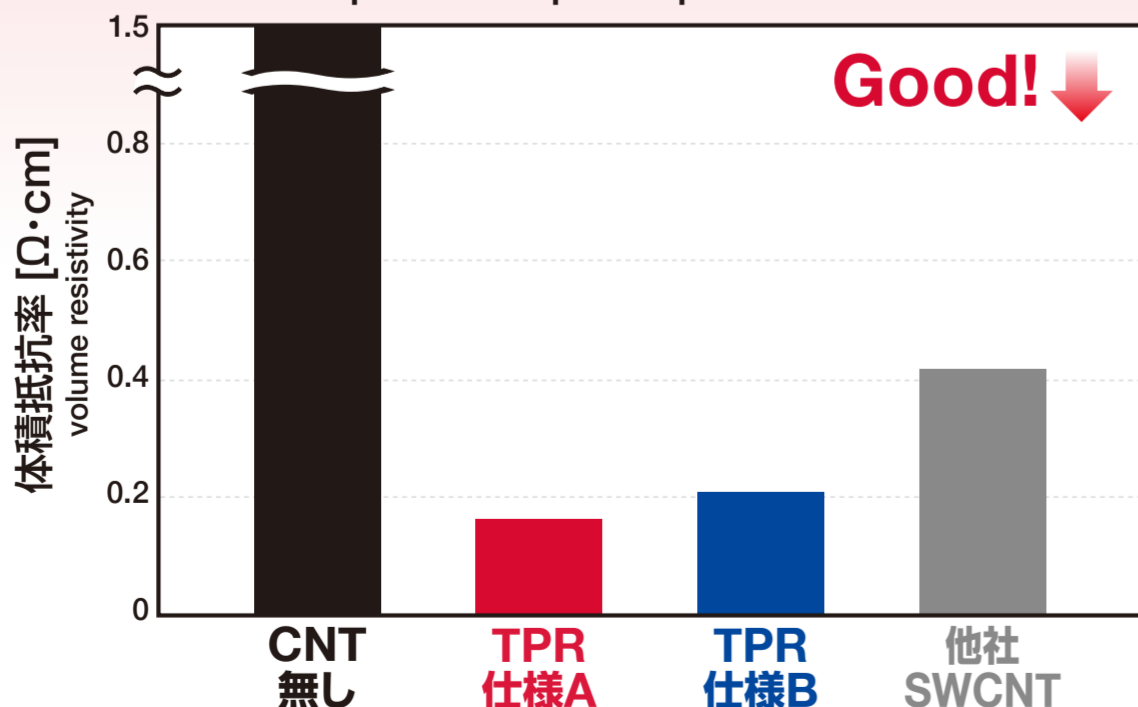
(例) 電池電極へ水分散液の添加効果 | An example of the addition effect

● ① 抵抗低減効果

Resistance reduction effect

分散液仕様と塗膜導電率の関係^{※2}

The relationship between dispersion specification and volume resistivity



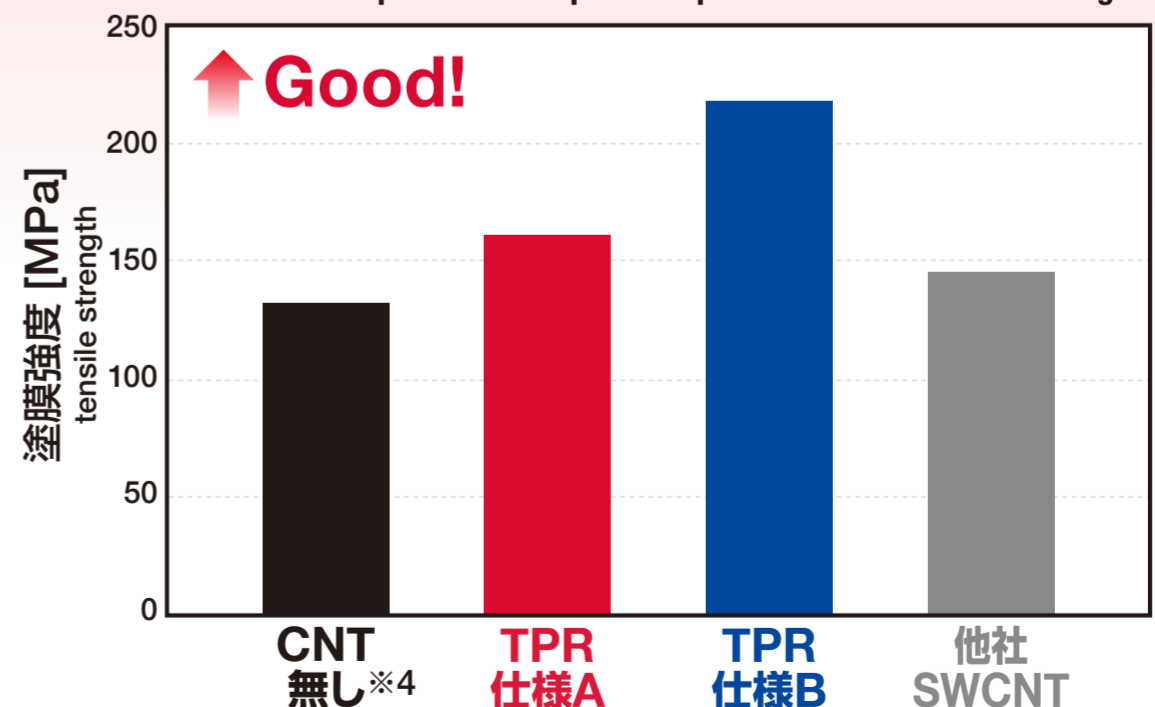
※2:シート抵抗 [Ω/□]より算出。配合比 = 電子絶縁材:導電助剤 = 8:2、導電助剤 = AB:CNT = 19.5:0.5
Calculated from sheet resistance. Ratio = electronically insulating material : conductive additive
conductive additive = AB : CNT

● ② 強度向上効果

Strength improvement effect

分散液仕様と塗膜引張強度の関係^{※3}

The relationship between dispersion specification and tensile strength



※3:分散液を塗工後にダンベル化して引張試験にて評価 By tensile test

※4:分散剤水溶液を塗工後ダンベル化

The sample is prepared by applying an aqueous solution of dispersant

お問い合わせ
Contact

TPR 株式会社 先行開発部
TEL:0237-86-4301

TPR Co., LTD Advanced Development DEPT
TEL:+81-237-86-4301

TPR