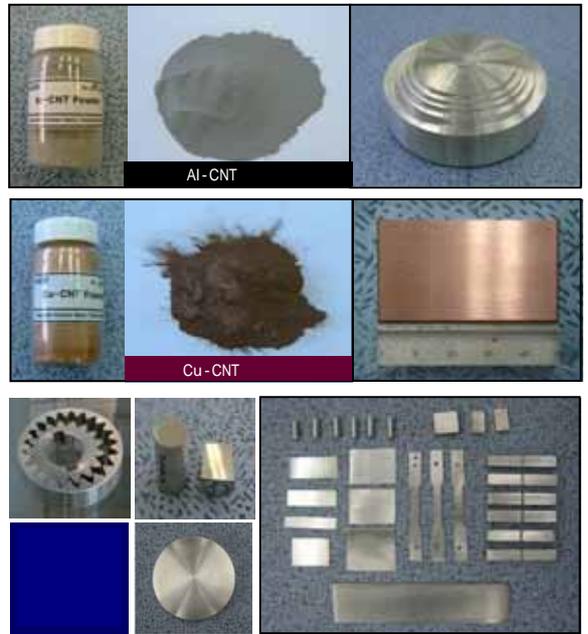


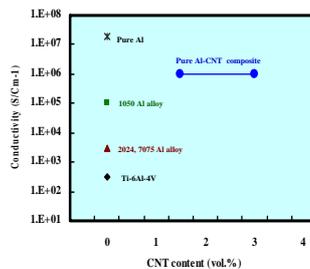
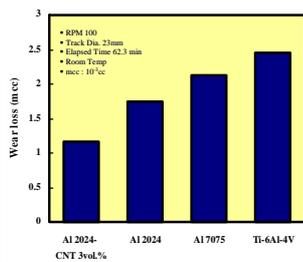
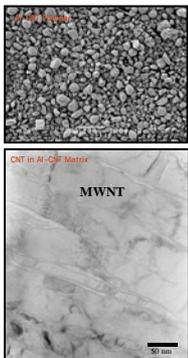
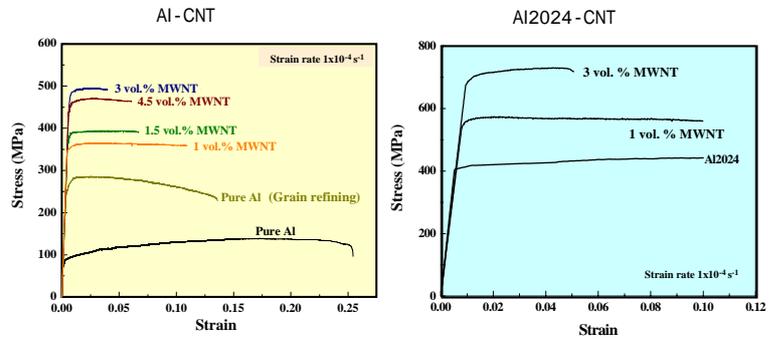
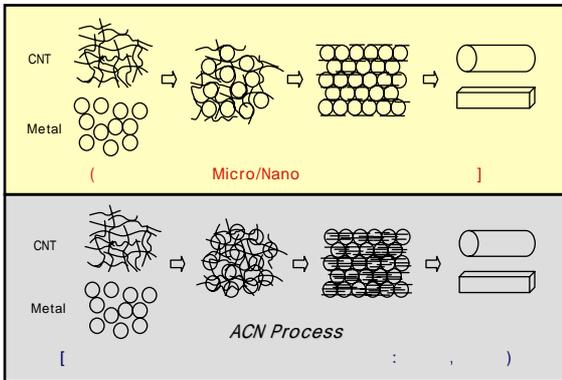
가



가

- : Al-CNT, Cu-CNT, W-CNT, STS-CNT
- : Al alloy-CNT, STS-CNT, W alloy-CNT
- : ~10 wt.%

ACN Process : 가 ,



	Yield Strength (MPa)	Tensile strength (MPa)	Elongation (%)	Hardness (HRB)	Specific strength (MPa)	Electrical conduct. (IACS%)	Wear loss (10 ⁻³ cc)
2024 Al Alloy	324	469	19	70.5	174	12	1.74
7075 Al Alloy	435	505	13	80.5	181	9	2.13
Ti-6Al-4V	880	950	14	260~	198	-	2.45
Pure Al-CNT (CNT 3 vol.%)	440	475	5~10	83.2	176	55	-
Alloy Al-CNT (CNT 3 vol.%)	715	720	4	93.7	265	-	1.16

* Tension test : ASTM E8
* Wear test : RPM 100, Track Dia. 23mm, Elapsed time 62.3 min, Room temp.



CNT

-CNT

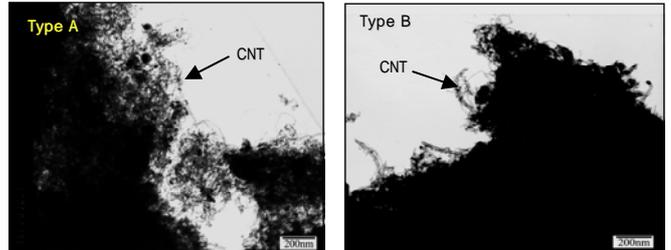
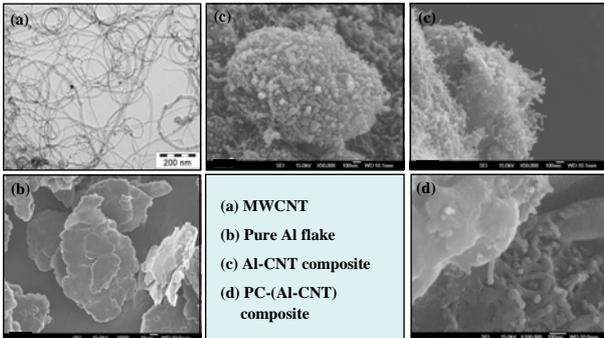
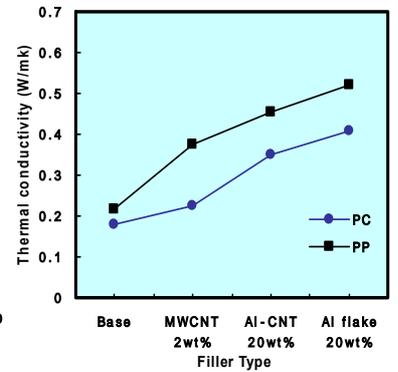
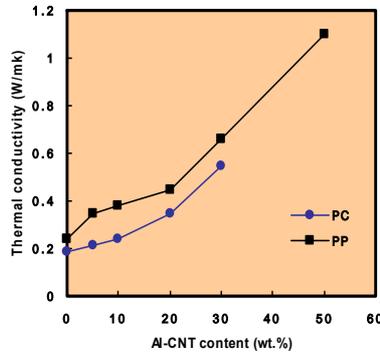
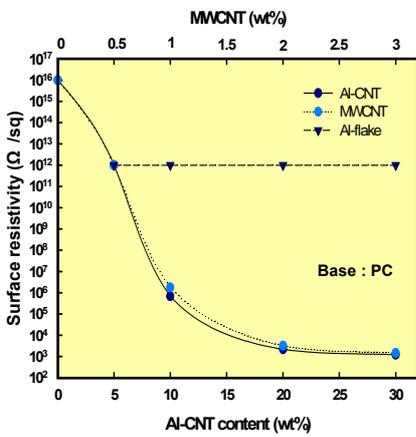
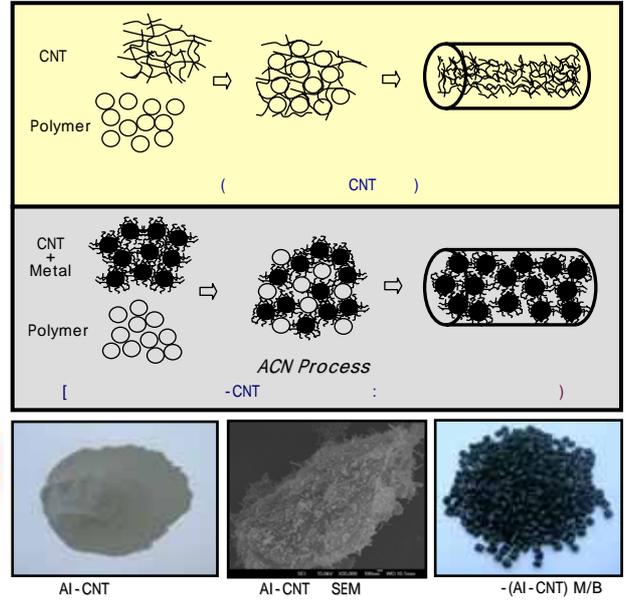
CNT

: CNT

: CNT (), ()
CNT 가

- PC-CNT, Nylon-CNT, PET-CNT, PE-CNT
- CNT 가 : ~20 wt.%

(ESD & EMI)

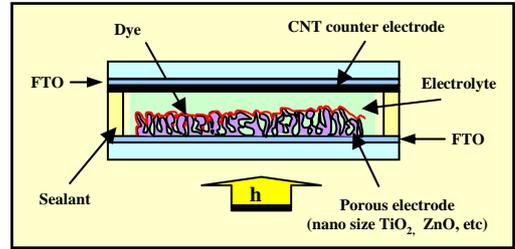


■ CNT



- CNT 가

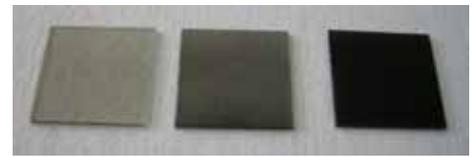
- CNT : $10^1 \sim 10^2$ /sq.
- CNT : $10^2 \sim 10^5$ /sq.
- 가 ,



CNT



CNT CNT CNT CNT



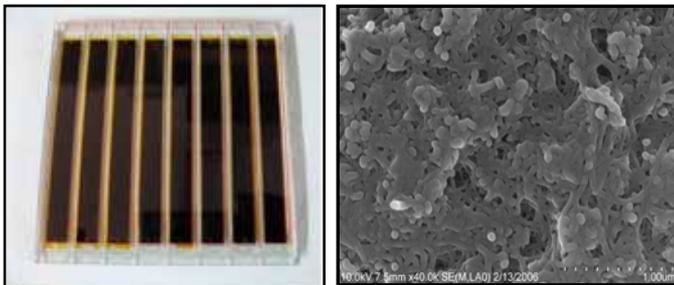
CNT

CNT

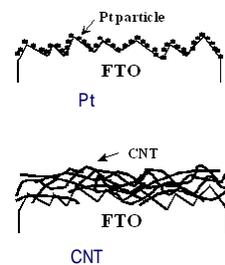
- 가
- CNT :
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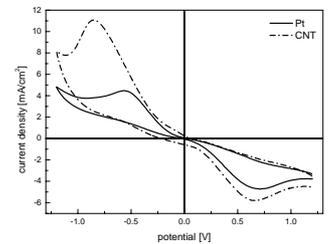
CNT (-ACN)



CNT CNT SEM

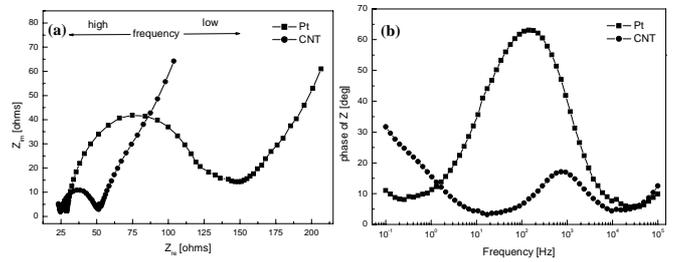


CNT



Pt CNT Cyclic voltammogram (Scan rate : 100 mV/s)

(Sheet resistance)	
■ CNT	Pt (CNT)
■ CNT	Pt (CNT)
■ CNT	
■ CNT :	



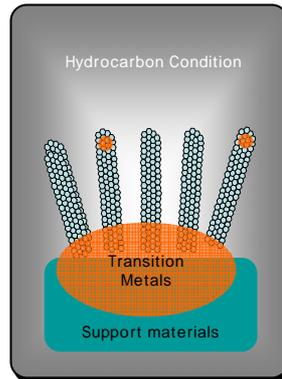
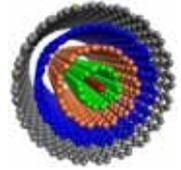
Impedance spectrum (a) Nyquist plots, (b) Bode plots



(CNT)

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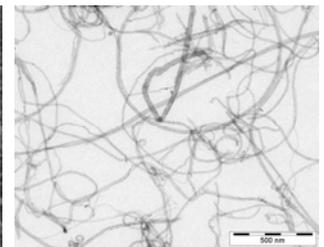
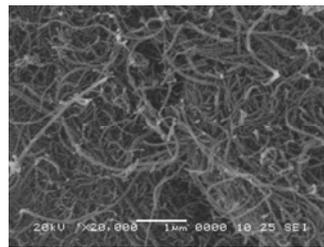
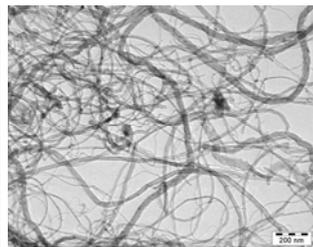
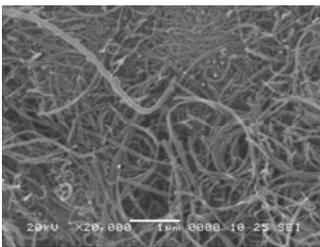
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CNT

Electrical Resistivity (Ω·cm)		0.1	Pure Cu (1.67)
Thermal Conductivity (W/m/K)		~2,000	Pure Al (236)
Elastic Behavior	Young's Modulus (MWNT)	1.28 TPa	
	Maximum Tensile Strength	~100 GPa	SUS 304 (0.6 GPa)

		(nm)	(um)	
CNT90	90 wt.% 以上	5-20	~10	Catalyst CVD
CNT97	97 wt.% 以上	5-20	~10	CNT90 精製



- CNT, -CNT, -CNT
- CNT : CNT paste, CNT ink
- CNT :
- 가

