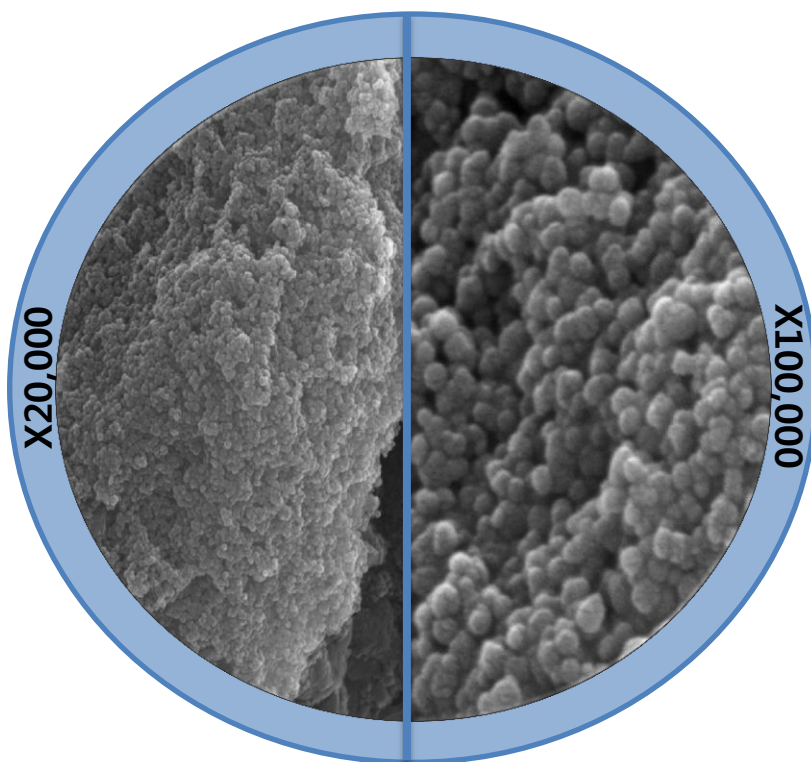


# NPC - F

# NANO POROUS CARBON POWDER

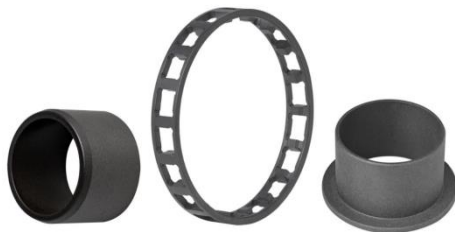
- Produce Nano Porous Carbon in a proprietary way(thermal catalyst activation method) using natural graphite.
- Many nm of pore on the surface is highly developed, so there are large molecules that have hydrophobic properties.
- Can be used in sorbent or lithium batteries, electrochemical accumulators, catalyst or electrode etc.
- The broad application of "NPC" is characterized by a wide surface area, large pore volume, high chemical stability and mechanical strength.



# USE PURPOSE

## ■ Environment and Energy

- wafers for solar cell prouction
- nuclear powder : High-temp. gas
- Fuel cell only
- Arospace purposes



## ■ Electronic material

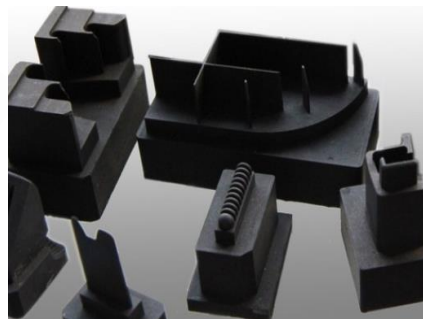
- silicon semiconductor
- LCD Panel manufacturing : Heater panel
- Hard disk manufacturing



# USE PURPOSE

## ■ ETC

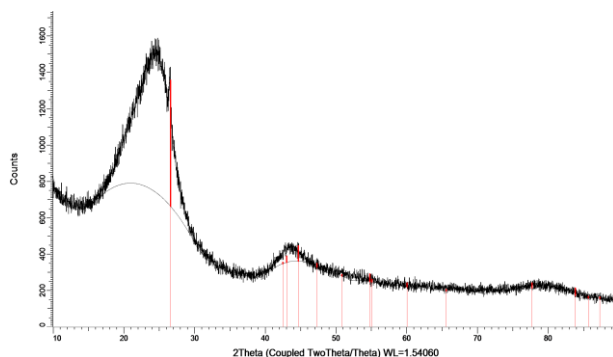
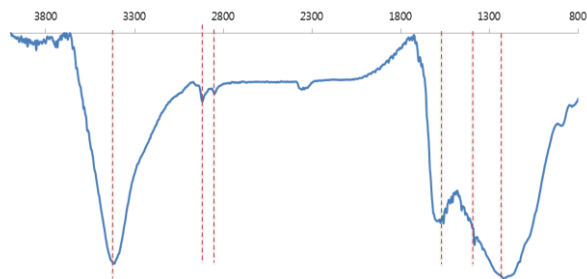
- Casting : Dice, Mandrill
- Hotpress : Dice, Sleeve, Spacer
- Parts of Industrial Road : Heater, Tray
- Vacuum deposition crucible
- Gas analysis crucible
- Fiber Optic Manufacturing : Heater, Tube
- EDM electrode





# SPECIFICATION

PROPERTY	NPC-F	UNIT
PURITY	97.0~99.0	%
PARTICLE SIZE	50~70	NM
BET	45~65	M <sup>2</sup> /G



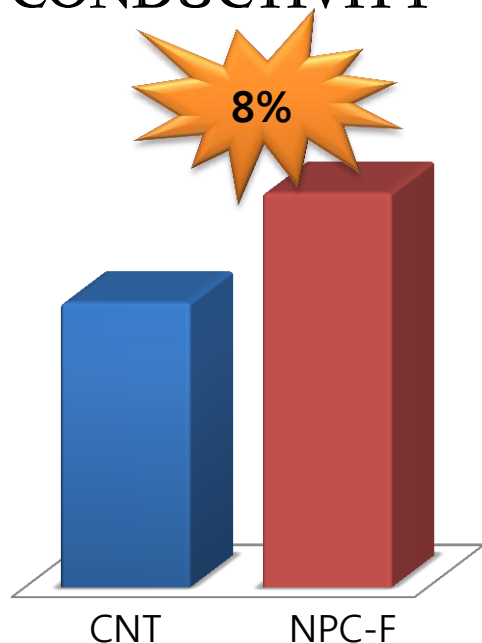
## IMPURITY ANALYSIS

UNIT : MASS PERCENT

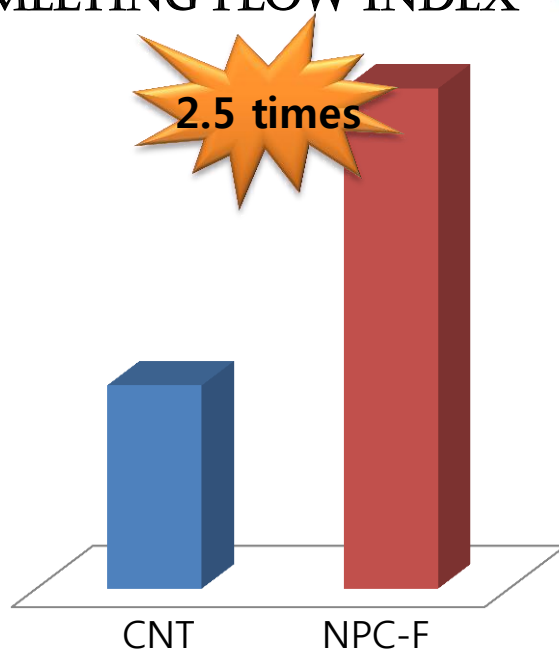
ELEMENTARY	CONTENTS	METHOD
C	98.45	WD-XRF
MG	0.116	WD-XRF
AL	0.1014	WD-XRF
SI	0.0193	WD-XRF
P	0.2485	WD-XRF
S	0.2457	WD-XRF
CL	0.242	WD-XRF
K	0.2327	WD-XRF
CA	0.331	WD-XRF
FE	0.1757	WD-XRF
NI	0.0513	WD-XRF

# CNT/NPC COMPARISON WITH APPLIED TO A FILER

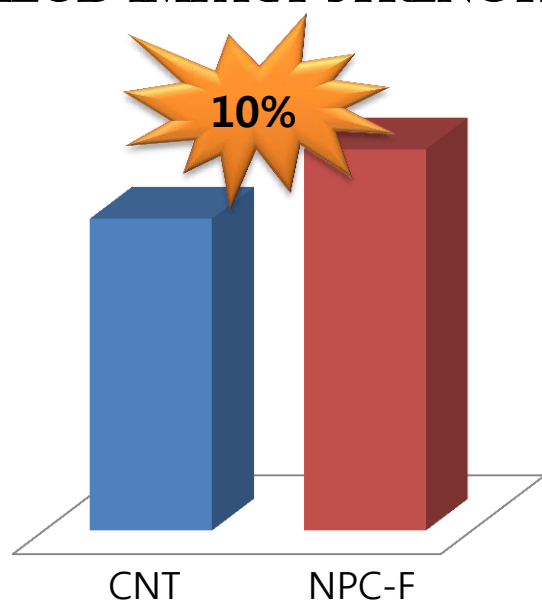
## CONDUCTIVITY



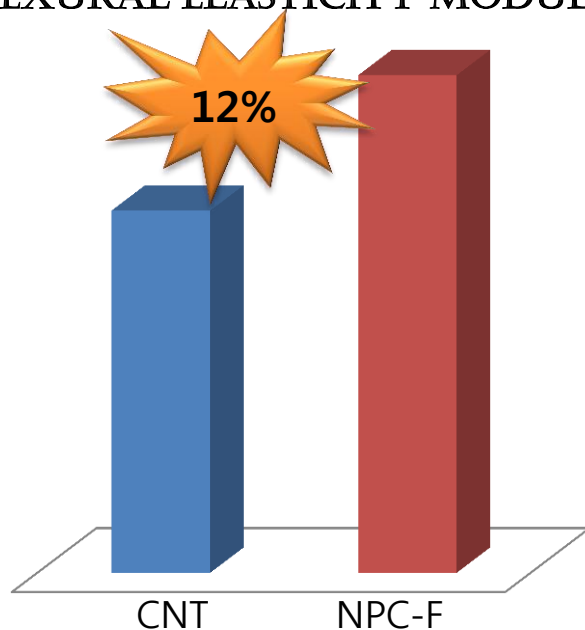
## MELTING FLOW INDEX



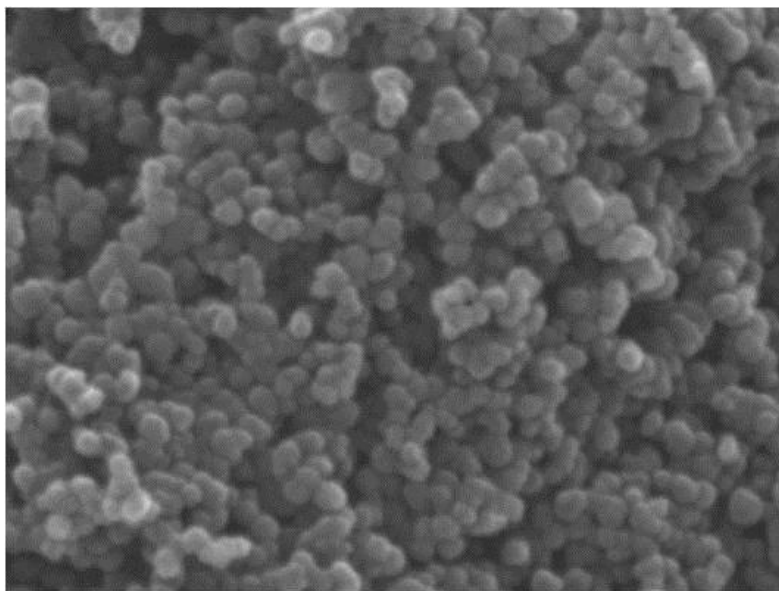
## IZOD IMPACT STRENGTH



## FLEXURAL ELASTICITY MODULUS



# NPC - N



**X 100,000**

# USE PURPOSE

## ■ Environment and Energy

- wafers for solar cell prouction
- nuclear powder : High-temp. gas
- Fuel cell only
- Arospace purposes



## ■ Electronic material

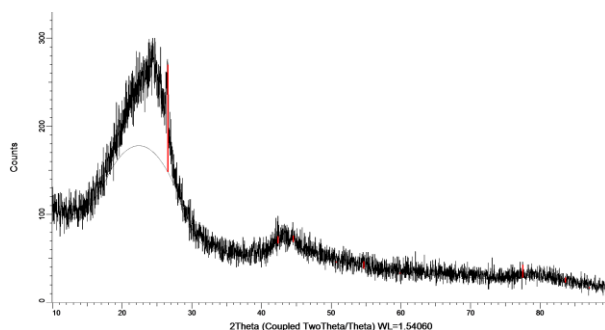
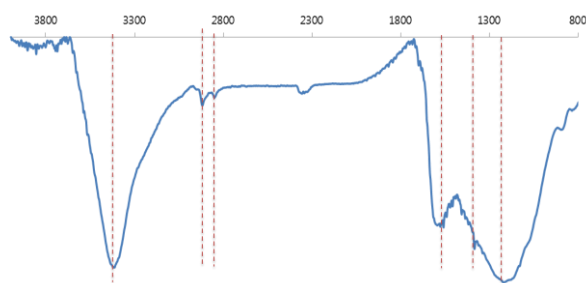
- silicon semiconductor
- LCD Panel manufacturing : Heater panel
- LED : Heatsink, paint additive





# SPECIFICATION

PROPERTY	NPC-N	UNIT
PURITY	99.0~99.9	%
PARTICLE SIZE	50~70	NM
BET	30~50	M <sup>2</sup> /G
RESISTANCE VALUE	9.5 X 10 <sup>-2</sup>	Ω
SURFACE RESISTANCE	2.3 X 10 <sup>-1</sup>	Ω/SQ
VOLUME RESISTANCE	6.6 X 10 <sup>-2</sup>	Ω·cm
CONDUCTIVITY	15	S/CM



## IMPURITY ANALYSIS

UNIT : MASS PERCENT

ELEMENTARY	CONTENTS	METHOD
C	99.16	WD-XRF
MG	0.0064	WD-XRF
AL	0.003	WD-XRF
SI	0.0098	WD-XRF
P	0.1580	WD-XRF
S	0.2562	WD-XRF
CL	0.247	WD-XRF
K	0.1323	WD-XRF
CA	0.2214	WD-XRF
FE	0.0250	WD-XRF
NI	0.0020	WD-XRF

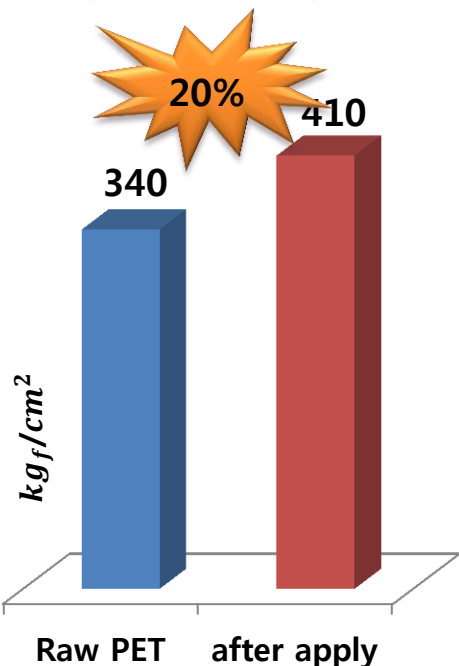
# APPLICATION OF NPC - N

## APPLY NPC TO POLYMER

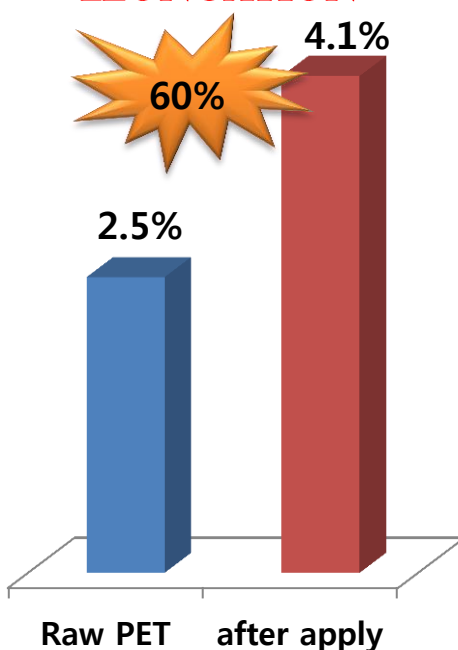
P.E.T

LDPE

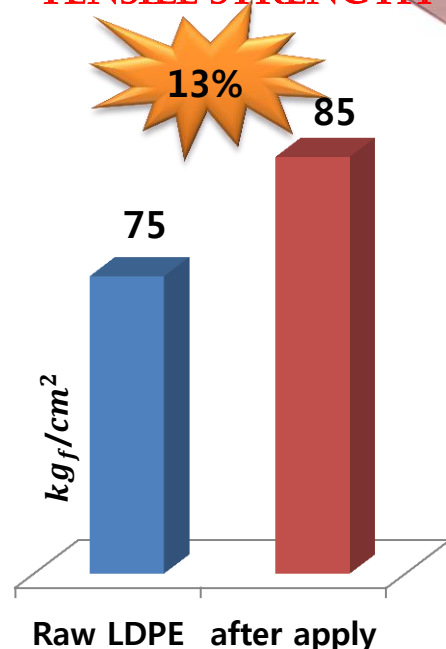
### TENSILE STRENGTH



### ELONGATION



### TENSILE STRENGTH



## NPC CONDUCTIVITY APPLIED TO URETHANE PAINT

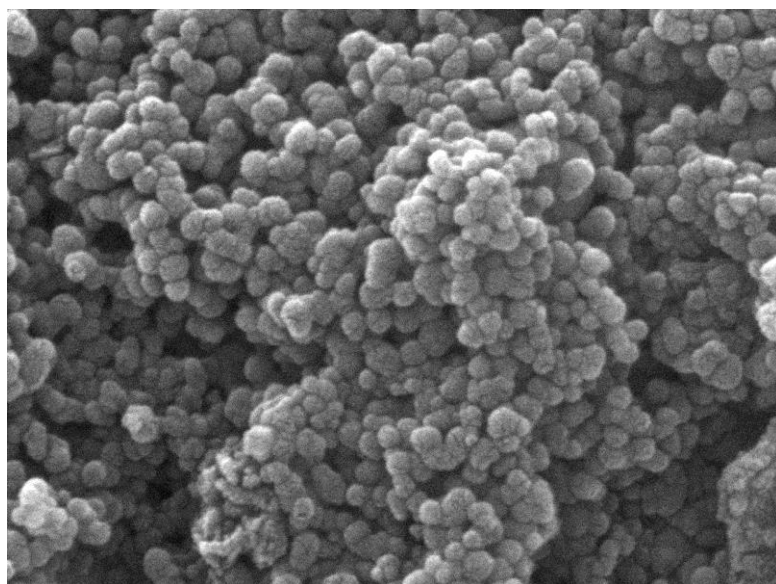


Thickness = 0.57mm

Internal = 384.6  $\Omega$  , 0.987745 S/M

Outside = 1.6 k $\Omega$  , 0.237429 S/M

# NPC - H

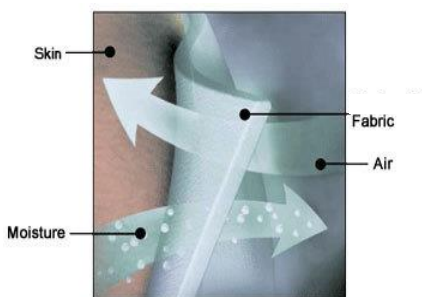


**X 100,000**

# USE PURPOSE

## ■ Environment and Energy

- Air Filter : Air conditioner, air purifier
- Wet filter : purifying water purifier, swimming pools
- Mask



## ■ Etc

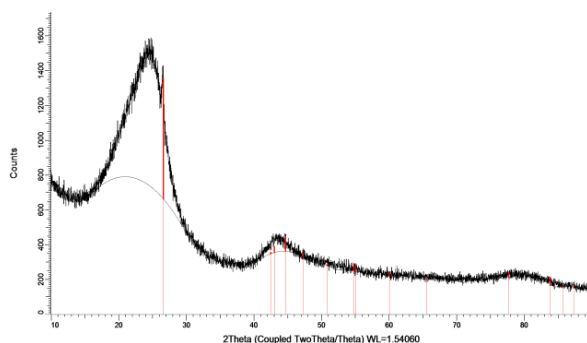
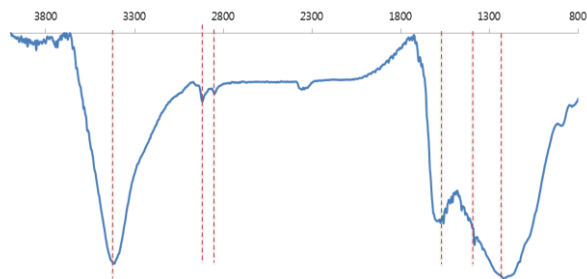
- PET band
- Tray
- Casting : Dice, Mandrill
- Special clothing : work clothes, fire-fighting clothes





# SPECIFICATION

PROPERTY	NPC-H	UNIT
PURITY	96~98	%
PARTICLE SIZE	50~70	NM
BET	500~600	M <sup>2</sup> /G
APPARENT DENSITY	0.35	G/CM <sup>3</sup>
TRUE DENSITY	1.99	G/CM <sup>3</sup>



## IMPURITY ANALYSIS

UNIT : MASS PERCENT

ELEMENTARY	CONTENTS	METHOD
C	97.761	WD-XRF
NA	0.0211	WD-XRF
MG	0.0058	WD-XRF
AL	0.01	WD-XRF
SI	0.0522	WD-XRF
P	1.0603	WD-XRF
S	0.7041	WD-XRF
CL	0.0103	WD-XRF
K	0.1623	WD-XRF
CA	0.1577	WD-XRF
FE	0.0452	WD-XRF

# APPLICATION OF NPC - H

## APPLY NPC TO NON-WOVEN FABRIC FILTER

