Memory Effect

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Fully charge - recharge

Fully charge

0%  100%

Fully discharge

0%  100%
Incompletely charge - recharge

0% 25% 100% → original
residu

0% 50% 100% → memorized by batteries

0% 100% → original
memorized by batteries
• Fresh condition new nickel-cadmium cell.

• $\text{Cd(OH)}_2$ crystals are about 1 micron in cross section

• Exposing large surface area

• Maximum performance.
• Cell with crystalline formation.

• Crystals have grown to 50 to 100 microns in cross section.

• Large portions of the active material from the electrolyte are lost.

• Jagged edges and sharp corners may pierce the separator, leading to increased self-discharge or electrical short.
• Restored cell.

• Crystals are 3 to 5 microns

• Almost 100% restoration.

• Exercise or recondition are needed if the pulse charge alone is not effective