

# SMRX-F3 Ni-Cd battery

## The compact high-power railway backup and starting battery

Saft's SMRX-F3 battery is purpose-designed to ensure reliable onboard backup and instant diesel-electric engine starting.

Saft's SMRX-F3 battery combines the proven reliability of Ni-Cd technology with the exceptional performance of Sintered/PBE construction to provide a long and trouble-free service life power backup solution.

The battery's ultra-light and compact construction in transparent, flame-retardant polysulfone containers represents a 30% reduction in weight and volume over other Ni-Cd batteries. These advantages enable significantly increased passenger carrying capacity, leading to greater comfort and safety.

### Applications

All types of trains

- Urban transport: metros, tramways, tram-trains, airport shuttles
- Regional transport: EMU, DMU (Electric and Diesel Multiple Units)
- Intercity transport: high-speed trains, diesel-electric and electric locomotives, passenger coaches

All types of function

- Passenger safety: onboard signaling, security lighting, door control and communication networks
- Passenger comfort: ventilation, air-conditioning, lighting, Wi-Fi
- Fail-safe train start-up: pantograph lift-up, computing, electronics
- Engine starting

### Benefits

Saft's SMRX-F3 cell design meets the specific needs of North America's OEMs and railway operators for reliable onboard backup power and instant diesel engine starting.

- Dependable backup for regular and high energy applications
- Totally reliable diesel engine starting
- Reduced installation footprint and lower weight
- Reduced maintenance and replacement costs
- Reduced LCC (Life Cycle Cost) and improved LCA (Life Cycle Assessment)
- High-power performance in demanding applications



#### Temperature

Operating temperature	From -30°C to +50°C
Resistance to extreme temperatures	From -50°C to +70°C

#### Maintenance

Low maintenance thanks to long time between topping-up operation	6 years or more (less than 35°C average, with charging temperature compensation)
Optional water filling vents allow for quick and accurate topping-up to minimize maintenance costs	Less than 10 minutes for active topping-up operation
Optimized reconditioning operation	Once in the battery lifetime

#### Light and compact design

Gain in container and battery compartment size vs conventionally sized batteries	60% depending upon requested mission profile
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#### Wide capacity range

Capacity range to optimize sizing to specific performances request	From 80 to 360 Ah
Available crates for easy integration & handling	For 2 to 10 cells

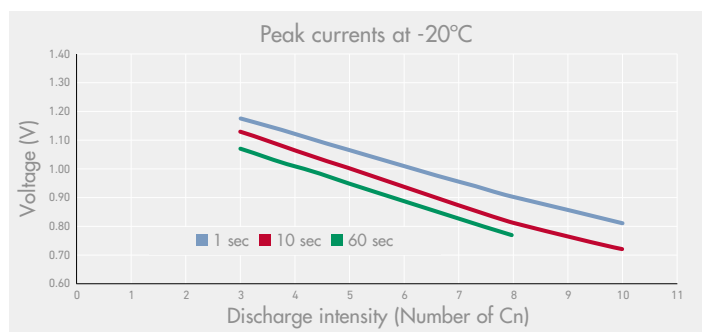
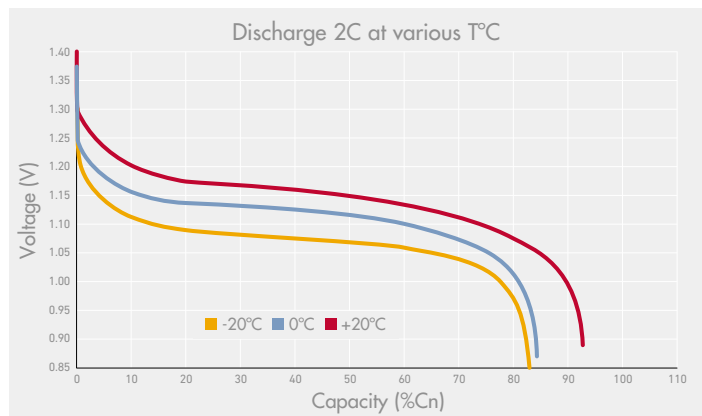
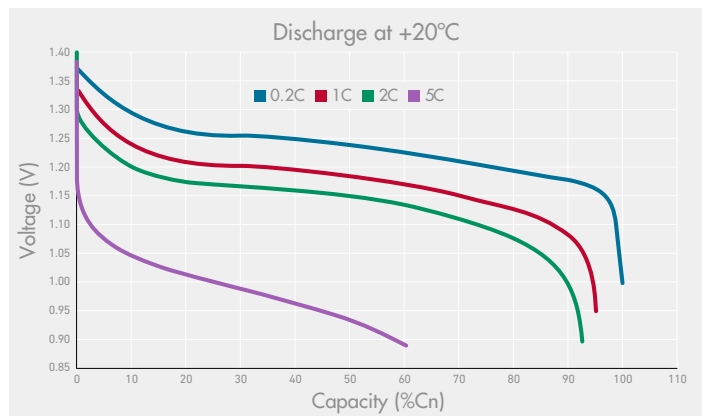
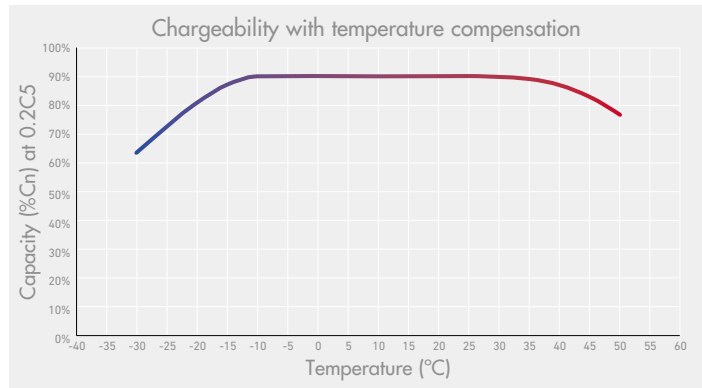
\* The data provided are nominal values and actual results may vary depending upon application conditions.

## Features

- Saft's Sintered/PBE Ni-Cd technology ensures reliable and predictable service life (20 years)\*, without risk of sudden death
- Low maintenance:
  - topping-up interval up to 6 years or more
  - only one reconditioning operation in the battery service life
- Highly compact design and lightweight Sintered/PBE construction, with ultra-thin separator, offers 30% reduction in volume and weight compared with a standard Ni-Cd battery
- Transparent plastic containers make electrolyte levels immediately visible
- Excellent high-power performance:
  - For instant diesel engine starting: high current discharges up to 8 times the capacity for up to 1 minute at -20°C
  - For peak power backup: discharges up to 5 times the capacity for 3 minutes
  - Wide operating temperature range from -30°C to +50°C and resistance to extreme temperatures from -50°C to +70°C

## Full conformity with quality, safety and environmental standards

- Electrical: exceeds the "H" type requirements of IEC 60 623, also significantly exceeds UIC 854 requirements
- Flammability, smoke emission and toxicity: NFPA130 (ASTM E 162, ASTM E 662), Boeing BSS7239
- Shocks & vibrations: IEC 61 373
- Quality: ISO 9001, Saft world class continuous improvement program
- Environment: fully recyclable, RoHS, REACH



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