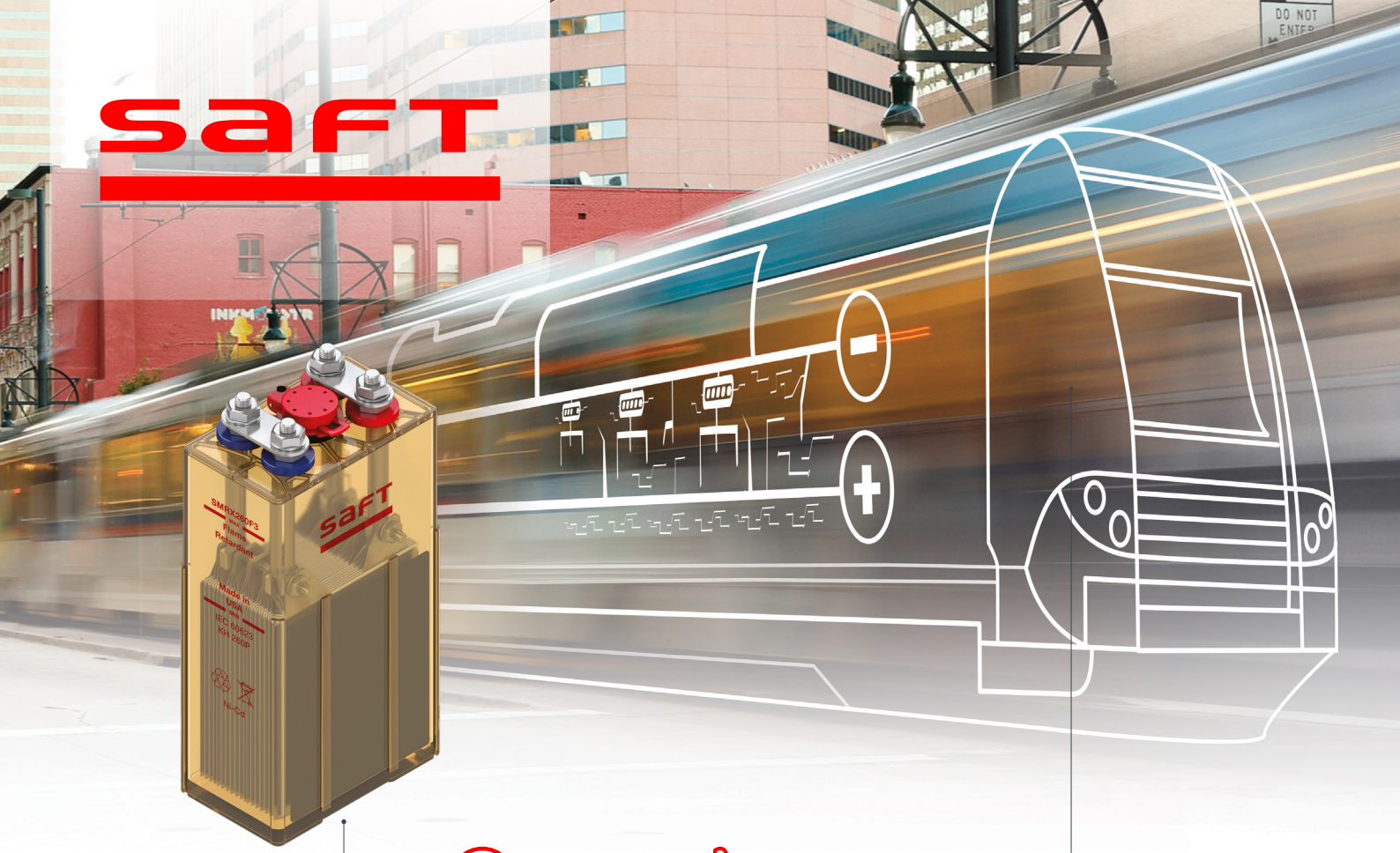
saft



DYNAMIC

RELIABLE

SAFE

SMRX-F3
Ni-Cd Battery

TotalEnergies

Rail industry operators depend on onboard batteries to deliver the reliability, robustness and long-life essential for passenger safety and comfort. They also need to know that their batteries will help keep services running on time, with minimum disruption due to any loss of external power.

PASSENGER SAFETY

- Onboard signaling
- Security lighting
- Door control & communication networks
- Monitoring system during train's sleep mode
- Emergency traction for passenger rescue

PASSENGER COMFORT

- HVAC (heating, ventilation and air conditioning)
- Lighting
- Wi-Fi

FAIL-SAFE TRAIN START-UP

- Engine starting
- Pantograph lifting
- Computers
- Electronics
- Limited power depot shunting

SMRX-F3

Compact high-power rail battery for backup and engine starting

Saft's full range of rail batteries offers long service life, excellent cycling capability and low maintenance. They support rail manufacturers and operators in providing reliable rail transport at low Total Cost of Ownership (TCO). The highly compact, lightweight SMRX-F3 battery is purpose-designed to deliver excellent high-power performance for frequent engine stop-starting operations on DMUs and locomotives, even at very low temperatures.
The goal is to provide optimal service while reducing fuel consumption, noise and emission.

Wide temperature range

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

Outstanding performance

- For instant diesel engine starting: high current discharges up to 8 times the capacity for up to **1 min at -20°C**
- For peak power backup: high current discharges up to 5 times the capacity for 3 mins

Light and compact design

- **Over 60 % reduction in overall volume** compared to standard batteries
- Wide capacity range from **80 to 360Ah**
- Optimized integration for 2 or more cells, with assembly in stainless steel crates with lifting handles, creating a rugged battery system
- Transparent plastic containers make electrolyte levels immediately visible

Predictable service life

- Long service life (20 years)*, **without risk of sudden death**

Low maintenance

- Topping-up intervals **up to 6 years**
- Optional water filling vents for toppling up **in less than 10 minutes**

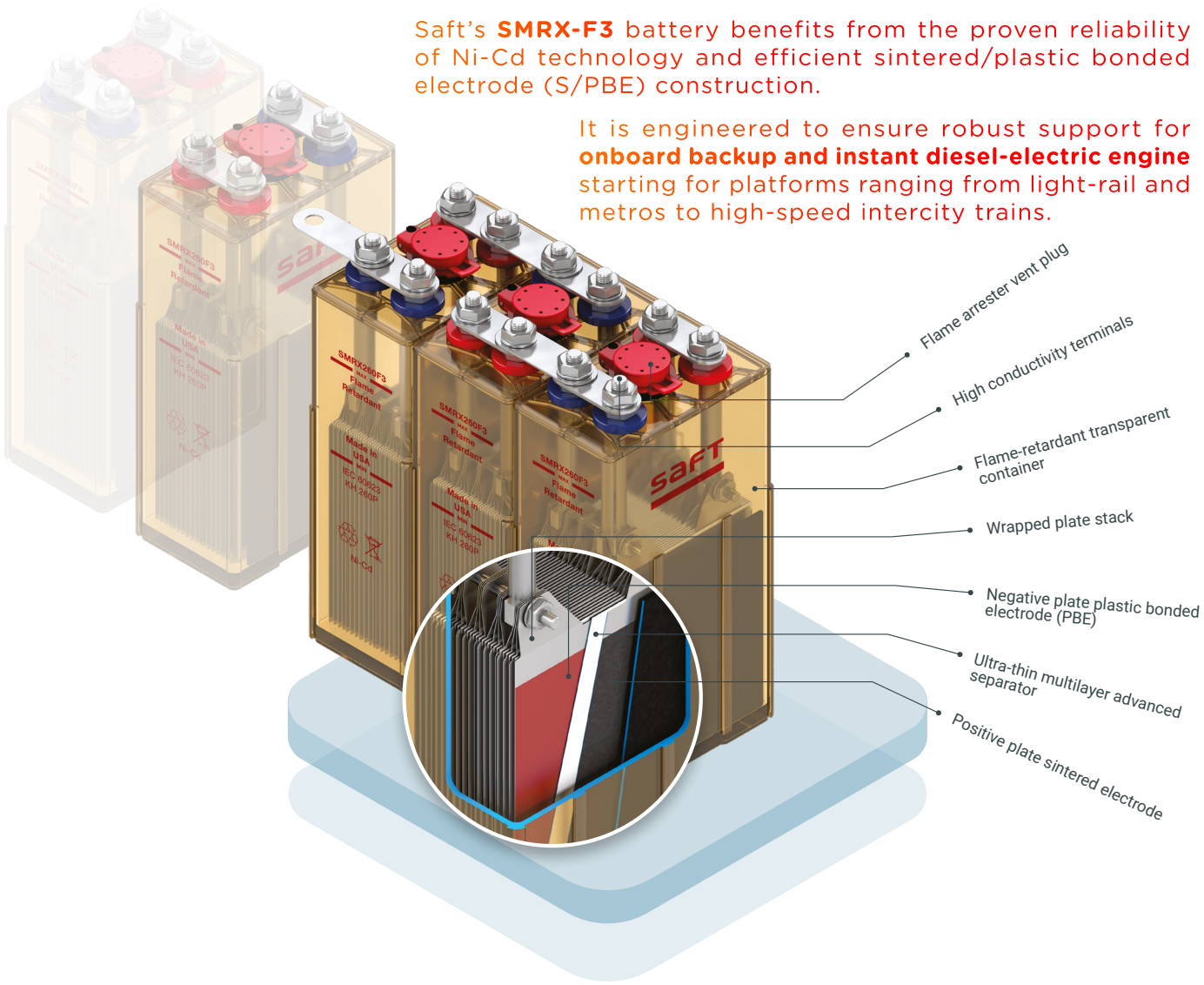
Safety

- Robust, flame retardant plastic container is highly resistant to shock and vibration

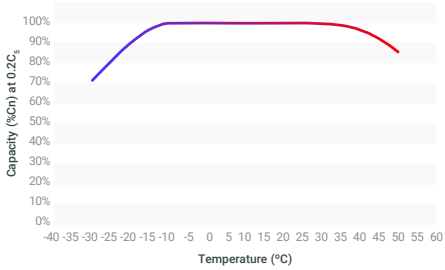
* *Nominal value – actual results may vary depending on application conditions.*
** *Values are not contractual.*

Saft's **SMRX-F3** battery benefits from the proven reliability of Ni-Cd technology and efficient sintered/plastic bonded electrode (S/PBE) construction.

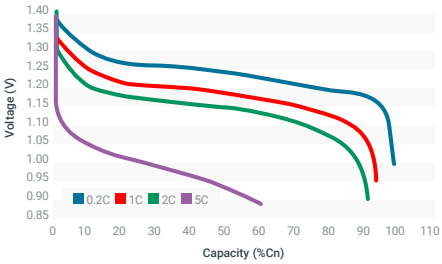
It is engineered to ensure robust support for **onboard backup and instant diesel-electric engine** starting for platforms ranging from light-rail and metros to high-speed intercity trains.



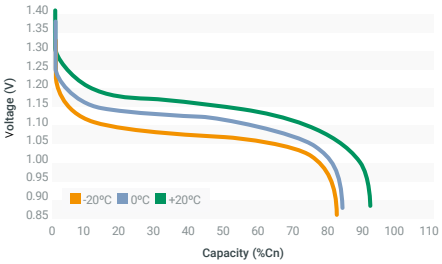
Chargeability with temperature compensation

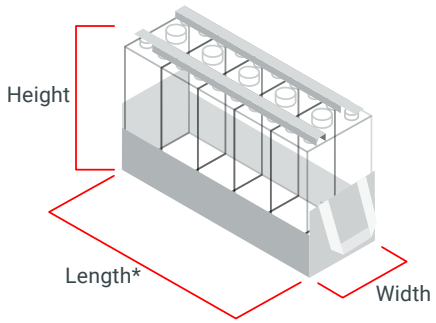


Discharge at +20°C



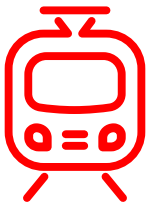
2C Discharge at various temperatures (°C)





Cell type	Capacity (Ah)	Weight** of cell (kg)	Width** including crate (mm)	Heigth** including crate (mm)	Length** including crate (mm)			Weight** including crate (kg)		
					2 cells	3 cells	5 cells	2 cells	3 cells	5 cells
SMRX80F3	80	4.8	167	337	138	203	334	11.1	16.2	26.5
SMRX100F3	100	5.1	167	337	138	203	334	11.7	17.1	28
SMRX120F3	120	5.4	167	337	138	203	334	12.3	18	29.5
SMRX130F3	130	5.5	167	337	138	203	334	12.5	18.3	30
SMRX145F3	145	6.4	167	337	170	251	414	14.4	21.2	34.8
SMRX160F3	160	6.7	167	337	170	251	414	15	22.1	36.3
SMRX180F3	180	7	167	337	170	251	414	15.6	23	37.8
SMRX200F3	200	8	167	337	199	295	485	19	28	46
SMRX230F3	230	9	167	337	199	295	485	20	29	48
SMRX260F3	260	10	167	337	239	355	590	23	34	56
SMRX290F3	290	11	167	337	239	355	590	23	37	61
SMRX320F3	320	12	171	326	286	426	704	27	40	66
SMRX360F3	360	13	171	326	286	426	704	28	42	69

The perfect fit for all types of modern electric trains



URBAN
- Metros
- Tramways
- Tram-trains
- Airport shuttles

REGIONAL
- EMU
- DMU (Electric & Diesel Multiple Units)

INTERCITY
- High-speed trains
- Diesel-electric and electric locomotives
- Passenger coaches

Saft's commitment to a sustainable future

Full conformity with quality, safety and environment standard.
- **Electrical:** Exceeds the high "H" type requirements of IEC 60 623, also significantly exceeds UIC 854 requirements
- **Flammability, smoke emission and toxicity:** NFPA 130 (ASTM E 162 and E 662), Boeing BSS7239
- **Shock and vibration:** IEC 61 373
- **Quality:** ISO 9001, Saft world class continuous improvement program
- **Environment:** Fully recyclable
- **Others:** IEC 62973-2 Batteries for auxiliary power supply systems (Ni-Cd), meets Buy America Act.

At Saft, we are committed to a more sustainable planet by:
- Giving priority to recycled raw materials over virgin materials
- Minimizing water usage
- Reducing fossil energy consumption and associated CO_2 emissions
- Providing comprehensive recycling solutions for spent batteries

For recycling industrial Ni-Cd batteries, Saft collaborates with collection companies across the world to receive and dispatch customers' batteries at the end of their lives. They are processed in fully approved facilities in compliance with the laws governing trans-boundary waste shipments. Saft also assists its customers in finding environmentally-sound recycling solutions.

Please contact Saft for further information.

SAFT

26, quai Charles Pasqua
92300 Levallois-Perret - France
www.saftbatteries.com

Saft, a subsidiary of TotalEnergies
Saft Groupe S.A.S.
au capital de 26 724 876 €
R.C.S. Nanterre 481 480 465

Document N°21810-2-0722
Edition: July 2022
Data in this document is subject to change without notice and becomes contractual only after written confirmation.
Photo credits: 123RF
© Saft

TotalEnergies