

IRONCLAD[®]
ADVANCED
BATTERY
SOLUTION

EXCLUSIVELY SQUARE.
EXCLUSIVELY POWERFUL.
EXCLUSIVELY IRONCLAD[®].



EnerSys[®]
Power/Full Solutions

ADVANCED BATTERY SOLUTION

IRONCLAD



**MORE POWER,
LONGER RUN TIME
AND LONGER LIFE...
AND SAVES
YOU MONEY.**

IRONCLAD® battery meets the demands of even the toughest, heavy-duty applications. The battery is designed with the proven EnerSys® square tube technology to deliver higher sustained operating voltages and rugged reliability for higher productivity and longer life. Whatever your motive power application, the heavier it is, IRONCLAD® battery is up for the challenge.



MORE POWER

IRONCLAD® batteries maintain higher average voltages in forklift applications than conventional batteries. Higher voltages can result in faster drive and lift speeds. Plus, the IRONCLAD® battery has the highest ampere-hour capacity ratings. IRONCLAD® batteries outperform other batteries with up to **15% more power**, particularly at the higher discharge rates demanded by modern AC drive trucks. It is also possible to extract up to 120% of the battery capacity per day by means of fast-opportunity charging. Matching IRONCLAD® batteries with EnerSys® chargers equipped with the advanced charging profiles.

MAXIMUM RUN TIME

In order to maintain a lift truck's constant drive and lift performance throughout a shift, the motor must offset a battery's normal voltage drop during discharge by drawing more and more amps. The IRONCLAD® battery's ability to sustain higher voltages, combined with industry leading capacity ratings, will extend the run time when compared to other conventional lead-acid battery design. Your material handling equipment will run for longer on each charge, therefore, maximizing your productivity.

LONGER LIFE

IRONCLAD® batteries have been manufactured by EnerSys® and used in North America for 100+ years. They have proven themselves to be reliable, rugged performers in tens of thousands of applications and work environments. Thanks to their unique square tubular, positive plate design using Cladex tubing, these batteries can run with higher specific gravities, which, not only increase the power and run time but also lead to a longer service life. IRONCLAD® battery has a design life of +10% compared to standard lead acid batteries, which equates to an extra year of life in many applications.

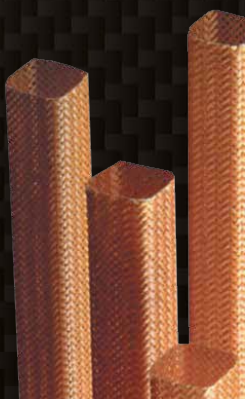


REDUCED MAINTENANCE AND OPERATING COSTS

While the IRONCLAD® battery is boosting productivity, it is also cutting costs. IRONCLAD® batteries can help decrease expensive truck maintenance because the higher sustained voltage and lower amp draw reduces heat and strain on the truck's electrical components. This means your trucks not only perform better during the shift, but also run longer before battery change is required. Fewer battery changes mean more productive time for your trucks. And the savings add up through fewer spare batteries, fewer chargers and fewer charging racks required to run your operation.

Wi-iQ® AND MODULAR CHARGER CONNECTIVITY

Wi-iQ® battery monitoring system (BMS) is a small electronic device that collects data from the battery: identity, capacity, temperature, voltage and current. It also gives an indication if the battery develops a voltage imbalance and requires service intervention. When used with our software program Wi-iQ® BMS Reporting Suite, a range of management reports can be accessed. Modular chargers (Life iQ™ Modular Chargers range) are capable of communication with the battery via the Wi-iQ® BMS.



THE IRONCLAD® BATTERY EFFECT

More surface area means more power. The increased work capacity of IRONCLAD® batteries is the result of its unique square tubular positive plate design, an EnerSys® exclusive. Compared to conventional round tube and flat plate battery designs, IRONCLAD® battery internal design provides more surface area on the positive plate, which exposes more positive plate active material to the electrolyte.

This combination of greater positive surface area and electrolyte provides higher sustained voltages throughout the discharge cycle. In addition, IRONCLAD® batteries are manufactured with sleeved separators which prevent misalignment and moss shorts. Fully insulated flexible inter-cell connectors add extra protection and the dust-proof, single-point filling system reduces topping-up time and cuts down on battery maintenance.

The range of IRONCLAD® batteries is particularly suited to heavy-duty applications or situations where you want to achieve longer truck run times to avoid using spare batteries. Cells rated from 276 to 2064 Ah, IRONCLAD® batteries are available in sizes to fit vehicles from small pallet trucks up to large forklift. The product range has now been extended up to 12 positive plates with 4 post configuration for higher capacity, to support higher discharge and recharge currents.

IRONCLAD® batteries are available in sizes to fit vehicles from small pallet trucks up to large forklift trucks.

Type Ahs C5	Ahs C5	Length mm	Width mm	Overall Height mm	Weight kg +/-5%	Wh/cell Rating @ 5h disch rate
2PzQ276	276	47	198	600	15.1	535
3PzQ414	414	65	198	600	21.5	803
4PzQ552	552	83	198	600	27.9	1.071
5PzQ690	690	101	198	600	34.3	1.339
6PzQ828	828	119	198	600	40.7	1.606
7PzQ966	966	137	198	600	47.1	1.874
8PzQ1104	1104	155	198	600	53.5	2.142
10PzQ1380	1380	192	198	600	66.9	2.677
10PzQ1380 4P	1380	192	198	600	66.9	2.677
12PzQ1656 4P	1656	227	198	600	80.0	3.230

Type Ahs C5	Ahs C5	Length mm	Width mm	Overall Height mm	Weight kg +/-5%	Wh/cell Rating @ 5h disch rate
3PzQ516	516	65	198	750	27.0	1.001
4PzQ688	688	83	198	750	35.0	1.335
5PzQ860	860	101	198	750	42.9	1.668
6PzQ1032	1032	119	198	750	50.9	2.002
7PzQ1204	1204	137	198	750	58.9	2.336
8PzQ1376	1376	155	198	750	66.9	2.669
8PzQ1376 4P	1376	155	198	750	66.9	2.669
9PzQ1548 4P	1548	174	198	750	77.0	3.003
10PzQ1720 4P	1720	192	198	750	85.2	3.337
12PzQ2064 4P	2064	227	198	750	103.2	4.004

ABOUT ENERSYS®

EnerSys®, the global leader in stored energy solutions for industrial applications, manufactures and distributes energy systems solutions and motive power batteries, specialty batteries, battery chargers, power equipment, battery accessories and outdoor equipment enclosure solutions to customers worldwide.

Energy Systems, which combine enclosures, power conversion, power distribution and energy storage, are used in the telecommunication, broadband and utility industries, uninterruptible power supplies, and numerous applications.

Motive Power batteries and chargers are utilized in electric forklift trucks and other industrial electric powered vehicles requiring stored energy solutions. Specialty batteries are used in aerospace and defense applications, large over-the-road trucks, premium automotive, medical and security systems applications.

EnerSys® also provides aftermarket and customer support services to its customers in over 100 countries through its sales and manufacturing locations around the world. With the recent NorthStar acquisition, EnerSys® has solidified its position as the market leader for premium Thin Plate Pure Lead batteries which are sold across all three lines of business.

More information regarding EnerSys® can be found at www.enersys.com.





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