



**EXIDE
INDUSTRIAL**

TBS

TUBULAR BATTERIES IN
TRANSPARENT CONTAINERS



Exide Industries Ltd. is the largest storage battery manufacturer in the country and has pioneered battery technology in India for over 70 years. Exide offers the latest series of TBS stationary Tubular batteries in Transparent SAN containers for critical standby applications. The cells are designed to conform BIS Specification No. IS 1651-2013.

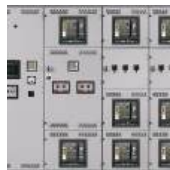
Application



Power Plants



Substations



Switchgear Operation



UPS System



Solar Photovoltaic



Railway signaling



Telecommunications

Superior Design & Construction

1. Transparent Container:

Containers are made of high quality transparent SAN, which enables quick and easy reading of the electrolyte level and visual inspection of the cell.

2. Torr Tubular:

Exide TBS Batteries have the spines or the positive plate supports cast at 100 Bar high pressure in world renowned Hadi machine. This ensures void free structure and uniform grain orientation. High pressure die-casting also enables production of positive spines with less than 3% antimony alloy. Low antimony

alloy in positive plate coupled with lead-calcium in negative plate reduces water loss considerably in TBS cells making it a true Low Maintenance battery. Topping up the frequency is only once in 12-18 months.

3. Special separator:

Micro-porous and resin based separators with polyester mat back bone have high porosity. Low electrical resistance and high temperature stability. It's small average pore diameter prevents penetration short.

4. Plastic encapsulated bolt-on terminals:

The corrosion resistant bolt-on terminals with brass inserts provides better electrical performance and resistance to wear and tear of terminals.

5. Vent plugs:

Vent plugs are specially designed with ceramic dome, which filters the sprayed acid and is fire retardant.

6. Insulated intercell connectors:

The intercell connectors offer better conductivity. The insulation protects the connector from acid attack and eliminates accidental shorts.

Features: ✓ Easy Monitoring ✓ Suitable for Frequent Discharges and High Ambient Temperatures
 ✓ Minimum Maintenance ✓ Lower Footprint ✓ 15 Years Life in Standby Float Application

Technical Data for Exide TBS Cells

Nomenclature	C10 Capacity upto 1.80 Vpc	Charging Current		Total Minimum Input during Initial Charging (Ah)	Weight +/- 5%		Approx. Qty. of acid 1.220 sp gr (Litres)	Overall Cell Dimensions			Cell Centre (mm)	Trickle Charge Current	
		Starting Rate (A)	Finishing Rate (A)		Dry	Acid Filled		L +/-3 (mm)	W +/-3 (mm)	H +/-5 (mm)*		Min (mA)	Max (mA)
2TBS100	100	12	6	500	8.7	14.7	4.9	103	206	430	112	100	400
2TBS120	120	14	7	600	9.3	15.0	4.7	103	206	430	112	120	480
3TBS150	150	18	9	750	10.5	15.9	4.4	103	206	430	112	150	600
3TBS180	180	22	11	900	10.5	15.9	4.4	103	206	430	112	180	720
3TBS200	200	24	12	1000	11.5	16.6	4.2	103	206	430	112	200	800
4TBS250	250	30	15	1250	13.9	18.7	3.9	103	206	430	112	250	1000
5TBS300	300	36	18	1500	16.6	25.1	7.0	145	206	430	153	300	1200
6TBS350	350	42	21	1750	19.2	27.1	6.5	145	206	430	153	350	1400
5TBS400	400	48	24	2000	21.0	31.0	8.2	145	206	546	153	400	1600
6TBS450	450	54	27	2250	25.8	35.9	8.3	145	206	546	153	450	1800
7TBS500	500	60	30	2500	27.4	36.4	7.4	145	206	546	153	500	2000
5TBS550	550	66	33	2750	31.0	45.9	12.2	145	206	721	153	550	2200
6TBS600	600	72	36	3000	34.3	48.6	11.7	145	206	721	153	600	2400
6TBS650	650	78	39	3250	35.4	49.4	11.5	145	206	721	153	650	2600
6TBS700	700	84	42	3500	40.8	66.9	21.4	210	233	721	220	700	2800
7TBS800	800	96	48	4000	45.6	70.9	20.7	210	233	721	220	800	3200
8TBS900	900	108	54	4500	49.1	73.5	20.0	210	233	721	220	900	3600
9TBS1000	1000	120	60	5000	53.3	77.0	19.4	210	233	721	220	1000	4000
10TBS1100	1100	132	66	5500	57.4	80.2	18.7	210	233	721	220	1100	4400
9TBS1200	1200	144	72	6000	65.5	104.5	32.0	210	275	871	220	1200	4800
10TBS1250	1250	150	75	6250	70.1	106.2	29.6	210	275	871	220	1250	5000
10TBS1325	1325	159	80	6625	70.1	106.2	29.6	210	275	871	220	1325	5300
11TBS1450	1450	174	87	7250	77.6	112.6	28.7	210	275	871	220	1450	5800
12TBS1500	1500	180	90	7500	81.5	115.8	28.1	210	275	871	220	1500	6000
12TBS1600	1600	192	96	8000	84.0	117.9	27.8	210	275	871	220	1600	6400
13TBS1700	1700	204	102	8500	96.0	148.3	42.9	214	399	847	220	1700	6800
14TBS1850	1850	222	111	9250	102.0	153.4	42.1	214	399	847	220	1850	7400
15TBS1975	1975	237	119	9875	105.5	155.8	41.2	214	399	847	220	1975	7900
16TBS2000	2000	240	120	10000	107.4	157.0	40.7	214	399	847	220	2000	8000
16TBS2100	2100	252	126	10500	110.7	160.0	40.4	214	399	847	220	2100	8400
17TBS2200	2200	264	132	11000	116.8	165.0	39.5	214	399	847	220	2200	8800
18TBS2400	2400	288	144	12000	131.5	193.4	50.7	212	487	847	220	2400	9600
20TBS2500	2500	300	150	12500	140.7	200.8	49.3	212	487	847	220	2500	10000
20TBS2600	2600	312	156	13000	145.0	204.8	49.0	212	487	847	220	2600	10400
22TBS2900	2900	348	174	14500	158.5	231.8	60.1	212	576	847	220	2900	11600
24TBS3000	3000	360	180	15000	164.9	236.5	58.7	212	576	847	220	3000	12000
24TBS3200	3200	384	192	16000	170.0	241.2	58.4	212	576	847	220	3200	12800

Cell Type	Terminal Pairs
2TBS100 to 6TBS650	1
6TBS700 to 12TBS1600	2
13TBS1700 to 17TBS2200	3
18TBS2400 to 24TBS3200	4



* Overall ht. upto top of ceramic vent plug.

Recommended float voltage

Temperature	Float Voltage
<5°C	2.24 ± 0.02 vpc
5°C - 35°C	2.23 ± 0.02 vpc
36°C - 45°C	2.22 ± 0.02 vpc

*Applied for



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