



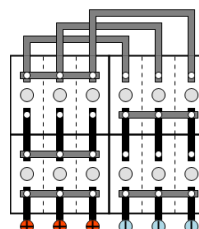
## MB670P - Cell data sheet

### Classification

|                          |           |
|--------------------------|-----------|
| Brand                    | Alcad     |
| Cell type                | MB670P    |
| Cell P/N                 | 311036381 |
| Capacity at 5 hours rate | 670 Ah    |
| IEC Designation          | KM670P    |
| According to IEC 60623   |           |



Wiring principle



Crosswise

### Physical data

|                |        |                 |         |
|----------------|--------|-----------------|---------|
| Overall height | 410 mm |                 |         |
| Cell height    | 400 mm |                 |         |
| Width          | 195 mm | Weight per cell | 35,9 Kg |
| Length         | 268 mm |                 |         |

### Construction

|                    |                 |                           |       |
|--------------------|-----------------|---------------------------|-------|
| Container material | Polypropylene   | No. of terminals/polarity | 3     |
| Separator type     | Grid            | Terminal material         | Steel |
| Connection torque  | 30,0 +/- 3,0 Nm | Vent type                 |       |
| Terminal size      | M10 SW 16 mm    |                           |       |
|                    |                 | Handle                    | Yes   |

### Plates

|                |        |                |        |
|----------------|--------|----------------|--------|
| Positive       |        | Negative       |        |
| Type of plates | Pocket | Type of plates | Pocket |

### Electrolyte

|                              |            |                   |       |
|------------------------------|------------|-------------------|-------|
| Electrolyte type: Renewal    | E13        | Max/Min           | 50 mm |
| Electrolyte type: Initial    | E22        | Vent oil quantity |       |
| Electrolyte per cell: Liquid | 9,3 liters |                   |       |

### Connection

|                                          |                     |                              |                     |
|------------------------------------------|---------------------|------------------------------|---------------------|
| Cable area of internal connection cables | 120 mm <sup>2</sup> | End-lug (and external cable) | 120 mm <sup>2</sup> |
|------------------------------------------|---------------------|------------------------------|---------------------|



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### Charging

|                      |             |                         |             |
|----------------------|-------------|-------------------------|-------------|
| Float voltage        | 1,4 V/Cell  | High rate voltage (min) | 1,45 V/Cell |
| Single-level voltage | 1,43 V/Cell |                         |             |

### Resistance/Short circuit

|                     |           |                       |         |
|---------------------|-----------|-----------------------|---------|
| Internal resistance | 0,13 mOhm | Short circuit current | 10526 A |
|---------------------|-----------|-----------------------|---------|

### Performance data

#### Current discharge

After prolonged float charge of fully charged cells. Available amperes at +20°C +/- 5°C (+68°F +/- 9°F)

| V/Cell | 10h  | 8h   | 5h  | 3h  | 2h  | 1,5h | 1h  | 30m | 20m | 15m | 10m   | 5m    | 1m    | 30s   | 5s    | 1s    |
|--------|------|------|-----|-----|-----|------|-----|-----|-----|-----|-------|-------|-------|-------|-------|-------|
| 1      | 68,2 | 84,4 | 134 | 219 | 320 | 398  | 562 | 764 | 886 | 958 | 1.092 | 1.286 | 1.736 | 1.938 | 2.314 | 2.448 |
| 1,05   | 67,6 | 83,8 | 133 | 217 | 301 | 384  | 507 | 648 | 763 | 832 | 909   | 1.054 | 1.474 | 1.658 | 1.953 | 2.104 |
| 1,1    | 66,4 | 82,6 | 130 | 202 | 280 | 339  | 413 | 515 | 627 | 652 | 745   | 892   | 1.244 | 1.387 | 1.637 | 1.739 |
| 1,14   | 64,6 | 80,2 | 126 | 190 | 245 | 283  | 332 | 404 | 463 | 501 | 575   | 718   | 1.003 | 1.112 | 1.286 | 1.325 |
| 1,16   | 62,8 | 77,0 | 116 | 176 | 206 | 224  | 276 | 345 | 396 | 413 | 462   | 573   | 842   | 937   | 1.055 | 1.122 |

#### Power discharge

Available power (W), after prolonged float charged of fully charged cells at +20°C +/- 5°C (+68°F +/- 9°F)

| V/Cell | 10h  | 8h   | 5h  | 3h  | 2h  | 1,5h | 1h  | 30m | 20m | 15m | 10m   | 5m    | 1m    | 30s   | 5s    | 1s    |
|--------|------|------|-----|-----|-----|------|-----|-----|-----|-----|-------|-------|-------|-------|-------|-------|
| 1      | 81,3 | 100  | 156 | 245 | 341 | 418  | 580 | 775 | 893 | 963 | 1.096 | 1.286 | 1.736 | 1.938 | 2.314 | 2.448 |
| 1,05   | 80,6 | 99,2 | 156 | 242 | 330 | 417  | 543 | 687 | 806 | 877 | 957   | 1.107 | 1.548 | 1.741 | 2.051 | 2.209 |
| 1,1    | 79,3 | 98,0 | 153 | 232 | 317 | 381  | 460 | 570 | 692 | 719 | 820   | 982   | 1.368 | 1.526 | 1.801 | 1.913 |
| 1,14   | 77,2 | 95,3 | 149 | 221 | 283 | 326  | 381 | 462 | 529 | 572 | 656   | 819   | 1.144 | 1.268 | 1.466 | 1.510 |
| 1,16   | 75,1 | 91,7 | 137 | 207 | 241 | 261  | 322 | 401 | 460 | 480 | 536   | 665   | 976   | 1.087 | 1.224 | 1.301 |



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### Kt Factor

#### Current discharge

After prolonged float charge of fully charged cells. Kt factor at +20°C +/- 5°C (+68°F +/- 9°F)

| V/Cell | 10h  | 8h   | 5h   | 3h   | 2h   | 1,5h | 1h   | 30m  | 20m  | 15m  | 10m  | 5m   | 1m   | 30s  | 5s   | 1s   |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1      | 9,8  | 7,94 | 5,00 | 3,06 | 2,09 | 1,68 | 1,19 | 0,88 | 0,76 | 0,70 | 0,61 | 0,52 | 0,39 | 0,35 | 0,29 | 0,27 |
| 1,05   | 9,9  | 8,00 | 5,05 | 3,09 | 2,23 | 1,74 | 1,32 | 1,03 | 0,88 | 0,81 | 0,74 | 0,64 | 0,45 | 0,40 | 0,34 | 0,32 |
| 1,1    | 10,1 | 8,12 | 5,14 | 3,31 | 2,39 | 1,98 | 1,62 | 1,30 | 1,07 | 1,03 | 0,90 | 0,75 | 0,54 | 0,48 | 0,41 | 0,39 |
| 1,14   | 10,4 | 8,36 | 5,31 | 3,52 | 2,73 | 2,37 | 2,02 | 1,66 | 1,45 | 1,34 | 1,16 | 0,93 | 0,67 | 0,60 | 0,52 | 0,51 |
| 1,16   | 10,7 | 8,70 | 5,77 | 3,80 | 3,25 | 3,00 | 2,42 | 1,94 | 1,69 | 1,62 | 1,45 | 1,17 | 0,80 | 0,71 | 0,64 | 0,60 |

#### Power discharge

Kt factor power, after prolonged float charged of fully charged cells at +20°C +/- 5°C (+68°F +/- 9°F)

| V/Cell | 10h  | 8h   | 5h   | 3h   | 2h   | 1,5h | 1h   | 30m  | 20m  | 15m  | 10m  | 5m   | 1m   | 30s  | 5s   | 1s   |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1      | 8,24 | 6,72 | 4,28 | 2,74 | 1,96 | 1,60 | 1,16 | 0,86 | 0,75 | 0,70 | 0,61 | 0,52 | 0,39 | 0,35 | 0,29 | 0,27 |
| 1,05   | 8,31 | 6,75 | 4,31 | 2,76 | 2,03 | 1,61 | 1,23 | 0,98 | 0,83 | 0,76 | 0,70 | 0,61 | 0,43 | 0,38 | 0,33 | 0,30 |
| 1,1    | 8,45 | 6,84 | 4,37 | 2,89 | 2,11 | 1,76 | 1,46 | 1,17 | 0,97 | 0,93 | 0,82 | 0,68 | 0,49 | 0,44 | 0,37 | 0,35 |
| 1,14   | 8,68 | 7,03 | 4,50 | 3,03 | 2,36 | 2,06 | 1,76 | 1,45 | 1,27 | 1,17 | 1,02 | 0,82 | 0,59 | 0,53 | 0,46 | 0,44 |
| 1,16   | 8,92 | 7,31 | 4,88 | 3,24 | 2,78 | 2,57 | 2,08 | 1,67 | 1,46 | 1,40 | 1,25 | 1,01 | 0,69 | 0,62 | 0,55 | 0,52 |