

## Al Mass Tower



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### Figures

|                       |                |
|-----------------------|----------------|
| Height: Architectural | 138 m / 453 ft |
| Height: To Tip        | 138 m / 453 ft |
| Floors Above Ground   | 31             |

### Facts

|                      |                                      |
|----------------------|--------------------------------------|
| Official Name        | Al Mass Tower                        |
| Structure Type       | Building                             |
| Status               | COM                                  |
| Country              | <a href="#">United Arab Emirates</a> |
| City                 | <a href="#">Dubai</a>                |
| Street Address & Map | <a href="#">Dubai Marina</a>         |
| Building Function    | residential                          |
| Structural Material  | concrete                             |
| Construction Start   | 2001                                 |
| Completion           | 2003                                 |

### Companies Involved

|                     |  |
|---------------------|--|
| Developer           | <a href="#">Emaar Properties</a>   |
| Architect           | <ul style="list-style-type: none"><li>• <a href="#">Design</a></li></ul> <a href="#">HOK, Inc.</a>   |
| Structural Engineer | <ul style="list-style-type: none"><li>• <a href="#">Design</a></li></ul> <a href="#">e.Construct</a> |
| Main Contractor     | <a href="#">Nasa Multiplex</a>   |

### About Al Mass Tower

Al Mas, meaning "diamond" in Arabic, is essentially two towers which overlap along their east-west axis. As the venue for the Dubai Diamond Exchange, the Al Mas Tower is distinctively styled as the centerpiece of the city's Jumeirah Lakes development. Two interlocking elliptical towers with office accommodation on 53 floors gently taper as they ascend, rising to a mast at the summit.

The two towers respond differently to their orientation. High performance externally treated insulated panels protect the south facing tower while the north facing tower employs more transparent glass allowing the benefit of the cooler ambient light, as well as being shaded by the taller insulated tower. At the base of this slender superstructure is a two-story steel podium in the form of eight shards of glass inspired by the glittering facets of a cut diamond. Radiating from the central core and corresponding to the principal points of the compass, the triangles reflect the surrounding water and animate the façade. The diamond exchange center, the largest in the Middle East, is located in the largest of the triangular spaces and cantilevers out over the lake. The space also includes a generous roof lantern allowing daylight to illuminate the trading floor and facilitate expert diamond inspection and trading. The podium glass is of a specification such that the diamond inspection process will not be influenced by the refracted light.

The vertical core was optimized at the design phase, with two independent vertical transport engineers exploring 27 different core configurations to eventually achieve an 80.1% core efficiency on the 1,600 square meter (17,200 sq ft) floor plate over the 68 floors. This efficiency, with a maximum average waiting time of 42 seconds, had not been achieved on commercial buildings of this height.

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