CLAIMS

1. An upper building module for a building, the building module comprising
at least one metal frame, the metal frame comprising
- a metal member with an upper part and a lower part, wherein the lower part is positioned at a lower corner of the building module, and the upper part is positioned at an upper corner of the building module,
- a floor tension plate that comprises at least one first building module fastener opening and a first building module connector protrusion alignment hole, wherein the floor tension plate is positioned horizontally and is fixed to the lower part of the metal member,
- a ceiling tension plate that comprises at least one second building module fastener opening and a second building module connector protrusion alignment hole, wherein the ceiling tension plate is positioned horizontally and is fixed to the upper part of the metal member, and

a floor concrete slab with at least one concrete slab opening being positioned at a lower part of the building module, the concrete slab opening providing a gap for accessing the corresponding first building module fastener opening of the corresponding floor tension plate from inside of the building module.

2. A lower building module for a building, the building module comprising
at least one metal frame, the metal frame comprising
- a metal member with an upper part and a lower part, wherein the lower part is positioned at a lower cor-

ner of the building module, and the upper part is positioned at an upper corner of the building module,

- a floor tension plate that comprises at least one first building module fastener opening and a first building module connector protrusion alignment hole, wherein the floor tension plate is positioned horizontally and is fixed to the lower part of the metal member,
- a ceiling tension plate that comprises at least one second building module fastener opening and a second building module connector protrusion alignment hole, wherein the ceiling tension plate is positioned horizontally and is fixed to the upper part of the metal member, and

a ceiling panel with at least one ceiling panel opening being positioned at an upper part of the building module, the ceiling panel opening providing a gap for accessing the corresponding second building module fastener opening of the corresponding ceiling tension plate from inside of the building module.

3. The building module according to claim 1 or 2 further comprising

a shaft pipe being attached to a lower part of the building module, wherein the shaft extends from the lower part to an upper part of the building module, and

a shaft wall being provided such that the shaft wall encloses the shaft pipe, the shaft wall comprises an upper shaft wall opening for accessing the at least one second building module fastener opening.

4. The building module according to one of the above-mentioned claims, wherein
the floor tension plate is fixed to the lower part of the metal member by welding.

5. The building module according to according to one of the above-mentioned claims, wherein
the ceiling tension plate is fixed to the upper part of the metal member by welding.

6. The building module according to one of the above-mentioned claims, wherein
the metal member comprises a metal section column.

7. The building module according to one of the above-mentioned claims, wherein
the floor tension plate, the metal member, and the ceiling tension plate comprise a steel material.

8. A building module arrangement for a building, the building module arrangement comprising
at least one set of building modules, the set of building modules comprising an upper building module according one of the claims 1 and 3 to 7 and a lower building module according one of the claims 2 to 7, wherein
- the upper building module comprising the floor tension plate that comprises at least one first building module fastener opening and a first building module connector protrusion alignment hole, and
- the lower building module comprising the ceiling tension plate that comprises at least one second building module fastener opening and a second building module connector protrusion alignment hole, and

a building module connector for aligning the upper building module to the lower building module, the building module connector comprising

- a building module connector metal plate for being positioned horizontally,
- a first protrusion with a first guiding chamfer being provided on an upper surface of the building module connector metal plate, and
- a second protrusion being provided on a lower surface of the building module connector metal plate, wherein

- the first protrusion is inserted into the first building module connector protrusion alignment hole of the floor tension plate for aligning the upper building module to the building module connector, and
- the second protrusion is inserted into the second building module connector protrusion alignment hole of the ceiling tension plate for aligning the lower building module to the building module connector,

the building module arrangement further comprising

a locking mechanism for fastening the floor tension plate to the ceiling tension plate, via the first building module fastener opening and via the second building module fastener opening.

9. The building module arrangement according to claim 8, wherein
the locking mechanism comprises a threaded element being welded to a rim of the first building module fastener opening.

10. The building module arrangement according to claim 8, wherein

the locking mechanism comprises a threaded element being welded to a rim of the second building module fastener opening.

11. The building module arrangement according to one of claims 8 to 10 further comprising
a first vibration damping rubber layer being positioned between the floor tension plate and the building module connector metal plate.

12. The building module arrangement according to one of claims 8 to 11 further comprising
a second vibration damping rubber layer being positioned between the ceiling tension plate and the building module connector metal plate.

13. The building module arrangement according to one of claims 8 to 12 further comprising
a metal spacer plate being positioned between the floor tension plate and the ceiling tension plate.

14. The building module arrangement according to claim 13, wherein
the metal spacer plate comprises a steel material.

15. The building module arrangement according to one of claims 8 to 14, wherein
the building module connector comprises a steel material.

16. The building module arrangement according to one of claims 8 to 15, wherein
at least one member of a group, which consists of the upper building module and the lower building module, the

member comprises a floor concrete slab with four concrete slab openings.

17. The building module arrangement according to one of claims 8 to 15, wherein
at least one member of a group, which consists of the upper building module and the lower building module, the member comprises a ceiling panel with four ceiling panel openings.

18. The building module arrangement according to one of claims 8 to 15, wherein
at least one member of a group, which consists the upper building module and the lower building module, the member comprises a floor concrete slab with three concrete slab openings and a ceiling panel with one ceiling panel opening.

19. The building module arrangement according to one of claims 8 to 15, wherein
at least one member of a group, which consists the upper building module and the lower building module, the member comprises four metal frames.

20. A method of assembling a building, the method comprising
providing an upper building module, which comprises a floor tension plate being attached to a lower corner of the upper building module, the floor tension plate comprising a first building module fastener opening and a first building module connector protrusion alignment hole,
providing a lower building module, which comprises a ceiling tension plate being attached to an upper corner of the lower building module, the ceiling tension plate

comprising a second building module fastener opening and a second building module connector protrusion alignment hole,

positioning the upper building module on top of the lower building module, wherein protrusions of a building module connector align the first building module connector protrusion alignment hole to the second building module connector protrusion alignment hole, and

accessing the floor tension plate of the upper building module via a gap that is provided by a concrete slab opening of the upper building module and accessing the ceiling tension plate of the lower building module via a gap that is provided by a ceiling panel opening of the lower building module for fastening the first building module fastener opening to the second building module fastener opening via a locking mechanism from the inside of one of the upper building module and the lower building module.