CLAIMS

1. A polymer concrete sewer pipe (101), comprising:

an external column and internal column forming a mould, wherein the mould has a cavity;

a plurality of locking mechanism (102) on the external column for securing said external column; and

a polymer concrete mixture comprising resin binder, aggregates, and auxiliary ingredients,

characterised in that,

the external column of the mould is a steel jacket (103), wherein the polymer concrete mixture casted into the cavity of the mould, and cured to form an overlay of one part of the locking mechanism (102), wherein the locking mechanism (102) is an anchorage comprising a nut and a locking screw disposed on an inner wall of the steel jacket (103), and the steel jacket (103) confers additional strength for load bearing, and protection against external corrosion to the polymer concrete sewer pipe (101).

2. The polymer concrete sewer pipe (101) according to claim 1, wherein resin binder content of the polymer concrete sewer pipe is 9-18%.

3. The polymer concrete sewer pipe (101) according to claim 1, wherein an aggregate content of the polymer concrete sewer pipe is 82-91%.

4. The polymer concrete sewer pipe (101) according to claim 1, wherein said polymer concrete sewer pipe (101) comprises auxiliary ingredients including at least one catalyst, polymerisation inhibitor, and additive.

5. The polymer concrete sewer pipe (101) according to claim 1, wherein the aggregate of said polymer concrete sewer pipe (101) comprises sand, gravel, or crushed stones.

6. The polymer concrete sewer pipe (101) according to claim 1, wherein the steel jacket of said polymer concrete sewer pipe (101) is made of corrosion-resistant alloy including stainless steel and mild steel.

7. The polymer concrete sewer pipe (101) according to claim 1, wherein said polymer concrete sewer pipe (101) comprises an internal glass-reinforced plastic (GRP) liner for additional protection to an internal wall of said polymer concrete sewer pipe (101).

8. The polymer concrete sewer pipe (101) according to claim 1, wherein said polymer concrete sewer pipe (101) is connected to another polymer concrete sewer pipe (101) via a steel sleeve or a GRP sleeve.

9. A method for producing a polymer concrete sewer pipe (101), comprising steps of:

preparing an external column and an internal column to form a mould, wherein the mould has a cavity;

securing a plurality of locking mechanisms (102) on the external column;

mixing resin binder, aggregates, and auxiliary ingredients for obtaining a polymer concrete mixture;

pouring the polymer concrete mixture into the cavity of the mould;

casting the polymer concrete mixture in the mould;

vibrating the mould for compaction and air removal; and

curing the polymer concrete mixture for obtaining the polymer concrete sewer pipe (101);

characterised in that,

the external column of the mould is a steel jacket (103), wherein the steel jacket (103) confers additional strength for load bearing, and protection against external corrosion to the polymer concrete sewer pipe (101), the locking mechanisms (102) is an anchorage comprising a nut and a locking screw disposed on an inner wall of the steel jacket (103), and the cured polymer concrete sewer pipe is removed from the internal column of the mould when the

polymer concrete mixture is strong enough as the temperature of the polymer concrete mixture reaches its peak and begins to solidify and cool down gradually.