Claims:

1.

Gate valve for control of petroleum production or water injection, at least one surface subject to sliding in operation of the valve comprises a top layer coating of diamond like carbon (DLC), said DLC-coating comprises sp3 bonds or a combination of sp2 and sp3 bonds, c h a r a c t e r i s e d i n that the DLC-coating comprises more than 16 atom-% hydrogen.

2.

Valve according to claim 1,
c h a r a c t e r i s e d i n that the DLC-coating comprises ~~more than 16 atom-% hydrogen, preferably~~ 17 atom-% or more hydrogen.

3.

Valve according to claim 1 or 2,
c h a r a c t e r i s e d i n that the valve is a subsea petroleum production or subsea water injection Xmas tree gate valve.

4.

Valve according to any one of the preceding claims,
c h a r a c t e r i s e d i n that said coating is applied on top of a carbide-coating or a chrome nitride coating.

5

Method of commissioning or operating a gate valve according to any one of claims 1-4,
c h a r a c t e r i s e d i n that during commissioning or assembly, the at least one surface with a DLC top layer coating subject to sliding in operation of the valve is operated or treated to a point beyond a top of high initial friction according to a curve of friction coefficient against sliding distance or close-open cycles in operation.

6.

Method according to claim 5,
c h a r a c t e r i s e d i n that the commissioning of the valve comprises undertaking open-close cycles.

7.

Method according to claim 5,

c h a r a c t e r i s e d i n that the commissioning of the valve comprises polishing of valve parts before assembly.

8.

Use of a diamond like carbon (DLC) top layer coating comprising ~~hydrogen, preferably~~ more than 16 atom-% hydrogen ~~and most preferred more than 17 atom-% hydrogen,~~ on at least one surface subject to sliding in operation of a gate valve for control of petroleum production or water injection.

9.
Use according to claim 8, wherein the DLC top layer coating comprises more than 17 atom-% hydrogen.

~~9~~10.
Use according to claim 8 or 9, for a subsea petroleum production or subsea water injection Xmas tree gate valve, for coating at least one of the interfacing sliding and sealing surfaces.

~~10~~11. Use of a DLC- according to claim 8 or 9, where the DLC has a-C:H structure.

~~11~~12. Use of DLC according to clam 8 or 9, where the DLC has- ta-C:H structure.