Physical and mechanical characteristics of steel and glass composite reinforcement «CG» compared:

	Characteristics	Metal reinforcement A-III (A400C)	Fiberglass reinforcement
1	Material	Steel 35GS, 25G2S etc.	Structural glass-composite
2	Tensile stress, MPa	360	1200
3	Tensile modulus, MPa	200 000	Not less than 55 000
4	Specific extension, %	Not less than 14	2,2 -2,4
5	Behaviour under stress («stress-strain»relationship)	A curved line with a toughness area under stress	A straight line with tensile- linear relations under stress up to the destruction
6	Gravity, t/m3	7,85	2,0 – 2,1
7	Thermal conductivity coefficient Bt/m2*°C	58	0,35
8	Line expansion coefficient αx10-6/°C	13-15 (concrete 7-10)	5,9 (concrete 7-10)
9	Corrosion resistance to corrosive media	Corrodes with rust discharge	Rustproof material of the first group of chemical resistance (including concrete alkaine conditions)
10	Thermal conductivity	Conductive	Non conductive
11	Electric conductivity	Electrically conductive	Dielectric
12	Radio transparency	Creates hindrances for radio wave signals, wi-fi	Doesn't create any hindrances for radio wave signals and wi-fi
13	Profile diameter, mm	6 - 80mm	4- 36mm
14	Profile length	Rod length 6-12 m	4- 10 mm diameter - in hanks to 150m, 12- 36 mm diameter –of any length to 12m
15	Durability	According to building regulation	Expected durability - 80 years
16	Labour intensity of unloading and laying	special technique required	Manual type of transfer, doesn't require any specific technique for unloading and laying
17	Economics and logistics	When full- strength replacing 1kg of fiberglass reinforcement replaces 7-9 kg of steel reinforcement on average.	