

Research on the development of new Yokohama City type iron lid of manhole

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(Purpose)

Recently, the environment of surrounding the manhole iron lid is being greatly changed with revision of road structure law and operation of the product liability law etc.. By receiving this, that Review of the specification standard and development of the product considered the safety the following were required in the manhole iron lid. And, with the increase of the sewerage penetration ratio, the number of the installed manhole iron lids has also reached the considerable quantity, and as public assets, the interest and expectation of the citizens seem to also increase.

This time, for such environmental change,

Review of effective specification for the load resistant.

Examination of surface design as a road landscape.

Consideration to safety.

Cost reduction (reduction in the variety by the selection of the display).

It is made that proposes the manhole iron lid with the excellent function by considering various aspects to be a purpose.

(Result)

1. Survey on actual situation of manhole iron lid

48 cities were selected from government-ordinance-designated city and administrative location city of national provinces in order to grasp specification outline and trend of the manhole iron lid, and materials, structures, design, functions were investigated.

2. Surface design of manhole iron lid

23 kinds of design considering regional characteristics of Yokohama City, lid protective effect, abrasion resistance, manufacturing, etc. was proposed for the surface design examination of the lid. It was decided as in fig.1 which designed "Bay Bridge and ring of the Yokohama City" referring to the opinion of sewage work station staff member and citizen of the Yokohama City.

3. Design automotive load

With the revision of highway bridge specifications and road structure law, JIS and gland manhole association standard also proposed the structure which corresponded to 2 kinds of live load of T-25 and T-14 from conventional T-20, since it was revised. As results of the examination, specification changes of wall thickness up, etc. were necessary for the lid, and on the receiving frames, it was made to be the convention way, because it was checked that conventional T-20 could be used as present.

4. Reduction in the variety by the selection of the display

Until now, there were 13 kinds of displays of "rain water trunk line" " rain water diffuser" " diversion of the trunk line ", etc. in term of the iron lid surface. In this examination, it was arranged and integrated that for sanitary sewage, displays "OSUI", for the confluence of rain water, displays nothing.

5. Consideration to safety

Ruggedness ratio and wire diameter of the design were examined as a slip prevention of the surface (under slippage-proof test preparation by the prototype).

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Fig.1 new design of iron lid

Key Words

Manhole iron lid, gland manhole