

Cost of Corrosion in Japan

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A corrosion cost survey in Japan in FY 2015 was conducted, and compared with those conducted in 1974 and 1997. Surveys in three economic situations (growing period: 1974, transition period: 1997, mature stage: 2015) are the first attempts in the world. The total amount of corrosion cost by Uhlig method in this survey (2015) was 4.3 trillion yen, or 0.78% of GNI (Gross National Income). This total amount was 0.94 or 1.68 times of that in FY1997 (4.6 trillion yen) or in FY1974 (2.5 trillion yen). The result that the total amounts in FY2015 and in FY1997 are almost same is considered to indicate the direct corrosion control costs in the mature stage of economic conditions which are 0.7~0.8% of GNI. The total amount of corrosion cost by Hoar method was 6.6 trillion yen, or 1.27% of GNI. This total amount was 1.27 or 6.22 times of that in FY1997 (5.2 trillion yen) or in FY1974 (1.1 trillion yen). In the Hoar method, the maintenance costs are also integrated, while in the Uhlig method, the initial costs are mainly integrated. The Hoar/Uhlig-ratio increased a little from 1.13 (FY1997) to 1.53 (FY2015). It indicates that the maintenance is considered to be more important. "Corrosion Cost Performance" increased from previous survey (1997) to this survey (2015) by using "New Technologies", while the total amount of "Cost of Corrosion" in 2015 is almost same to that in 1997. New Technologies - monitoring, simulation, data base, AI, Risk Based Maintenance, etc. - are effective to increase "Anti-Corrosion Level" and to decrease "Cost of Corrosion".