Technical Characteristics of SMRT07™ New Friction Type Top Bracing

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ABSTRACT

There was the M/E friction type top bracing with the structural crack problems in the period of 1990 ~ 1998. In order to improve the problem, the SEM98 Friction type top bracing was developed in 1998 with SHI's own originality. On the basis of perfect application results of SEM98 in tanker vessels for 10 years, the SMRT07™ (below here, “New Top Bracing”) was more improved for application in large container vessels too, in order to make the high quality vessel and main engine. The SMRT is SMART of the meaning of Smart and Safe, Maintenance Free, Application Proven, Robust, Total Cost Effective.

According to the strength analysis, the dimension and shape of top bracing was verified, and the calculated fatigue life based on the top bracing dimensions and shape is definitely above 30 years.

In this report, the technical introduction of New Top Bracing including the development concept, considering force relations for design specifications, strength and fatigue analysis results are explained in detail. Also, the technical discussions are explained for comparison between hydraulic type and friction type top bracing, and ship's operating loss in top bracing damage case.

KEY WORDS: Friction Type M/E Top Bracing, Hydraulic Type M/E Top Bracing, Excitation Force, M/E Vibration

INTRODUCTION

In order to improve the M/E top bracing crack claim problem with the old type friction type top bracing (the claims occurred the 24 vessel per year), the SEM98 friction type top bracing developed in 1998 with SHI's own originality, and the application results is that there is no damage case for 10 years in the SHI delivered many tanker vessels.

New Top Bracing as shown in Figure 1 was more improved for application in large container vessels, in order to make the high quality vessel and main engine.