

HOW'S THE CONDITION OF YOUR CYLINDER LINER?

Replace liners by scheme forecasting respective lifetime!!

It is generally mentioned that the allowable wear limit of cylinder liner is in between 0.4% to 0.8% of cylinder diameter. According to our many experiences, however, replacement of cylinder liner is recommendable when the wear rate reaches to 0.4% of original cylinder diameter or oval wear rate (difference between max. and min. cylinder diameter) reaches to 0.2%. This is because in many cases replacement of cylinder liner is taken place by oval wear rather than the case circumferential wear reaches its allowable limit. As oval wear progresses, piston ring breakage or blow-by through piston rings tends to occur, which sometimes leads to fire in scavenging box or other serious consequences.

In order to prevent such trouble and to save extraordinary expenses due to emergency procurement of cylinder liner, we recommend you to purchase cylinder liners programmatically, forecasting lifetime of each cylinder liner.

For your reference, the example of lifetime calculation is shown below:

Engine type: L60MC : Wear rate: 0.05mm/1,000hrs, Annual ships operation: 6,000hrs
Allowable limit of wear rate: 0.4% of cyl. diameter

$$\text{Lifetime } X = \frac{0.4\% \times 600\text{mm}}{6,000\text{hrs/year} \times 0.05\text{mm/1,000hrs}} = 8 \text{ years}$$

The wear rate of cylinder liner differs by engine model. The average wear rate of L — MC type engine is in between 0.03 — 0.07mm/1,000hrs, which is much improved from older model of GF type engine with average wear rate of 0.05 — 0.13mm/1,000hrs. Actual wear rate may, however, increase temporally by reason of operation mode, characteristics of fuel or lub. oil, cooling water temperature and so on. Especially careful observation is necessary on liner wear when fuel oil has been changed.

Please do not hesitate to consult with us by providing us with your related engine data and we are always at your service in extending our professional advices.

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