

CRANK

Crankshaft Stress Calculation Service



Key Features

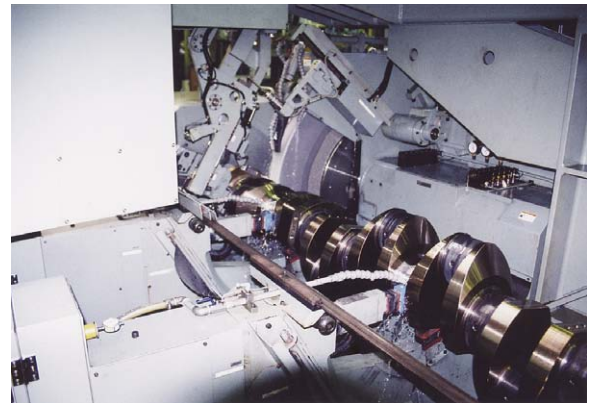
- ◆Crankshaft stress calculation service
- ◆Compliant with both the NK Rules and IACS UR M53

PrimeShip-CRANK is a crank shaft stress calculation service designed to evaluate the strength of diesel engine crankshafts of in accordance with Chapter 2, Part D of the ClassNK Rules for the Survey and Construction of Steel Ships and IACS UR M53.

Calculation method and evaluation criterion

PrimeShip-CRANK provides crankshaft strength evaluation based on the rigorous methods developed over more than a century of classification experience and embodied in the ClassNK Rules.

ClassNK evaluates the crankshaft strength of NK classed diesel engines during the drawing approval process; however, PrimeShip-CRANK allows the owners and operators of non-NK classed ships to have their crankshafts evaluated using ClassNK's highly reliable crankshaft strength evaluation system.

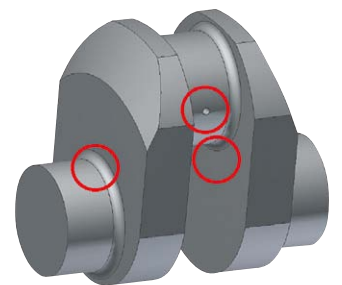


Evaluation of high stress areas

In order to evaluate the overall strength of the crankshaft, stresses at following high stress parts can be calculated.

- ◇Fillet transitions between the crankpin and web
- ◇Fillet transitions between the journal and web
- ◇Outlets of crankpin oil bores

For built-up crankshafts, strength evaluations relevant to shrinkage fitting can also be carried out.



Rule based crankshaft evaluation

PrimeShip-CRANK evaluations are conducted in accordance with the simplified calculation formula specified in 2.3, Part D of the ClassNK Rules and can also be carried out using either of the detailed calculation methods specified in “Annex D2.3.1-2(1) Guidance for Calculation of Crankshaft I” or “Annex D2.3.1-2(2) Guidance for Calculation of Crankshaft II” at the applicant’s request.

Crankshaft statement of compliance

After confirmation of compliance with Chapter 2, Part D of the Society’s Rules, ClassNK will issue a statement of compliance to the applicant.



How to apply

To apply for the PrimeShip-CRANK evaluation service, please contact the ClassNK Machinery Department at the address below.