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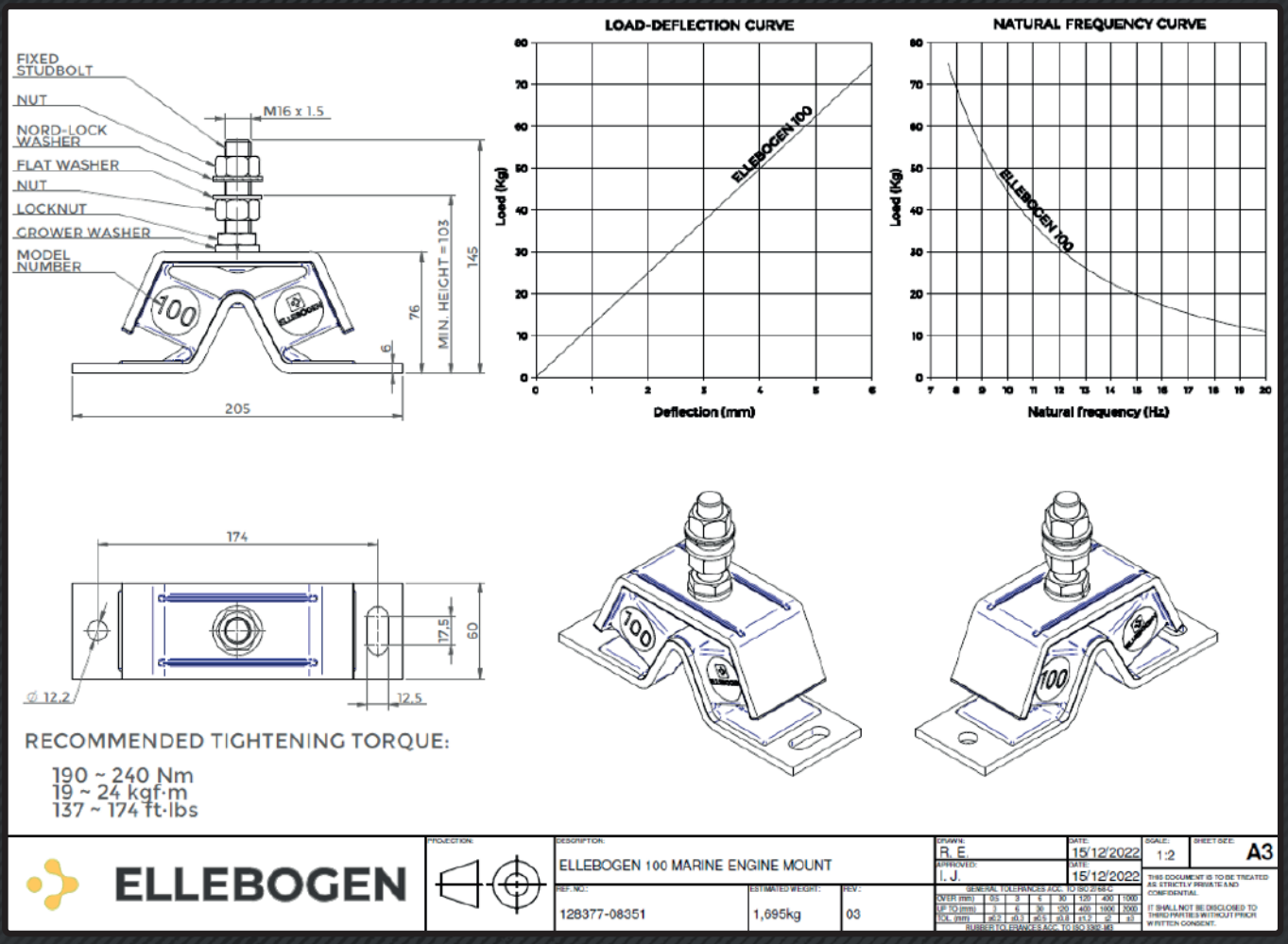
TENSILE TEST REPORT

Introduction

- The aim of this document is to summarize the results of the tensile test that has been carried out with a Ellebogen 100 (Ref. 128377-08351) marine engine mount.
- The goal of the tensile test is to check the resistance of the structural integrity of the engine mount under extreme loads. To keep its structural integrity, these 3 elements must remain without catastrophically failing:
  - Rubber
  - Metal parts
  - Bonding between rubber and metal parts
- The tensile test is applied fastening the top stud bolt to a fixed load cell and pulling downwards from the baseplate.
- The drawing of the Ellebogen 100 marine engine mounts:



Test

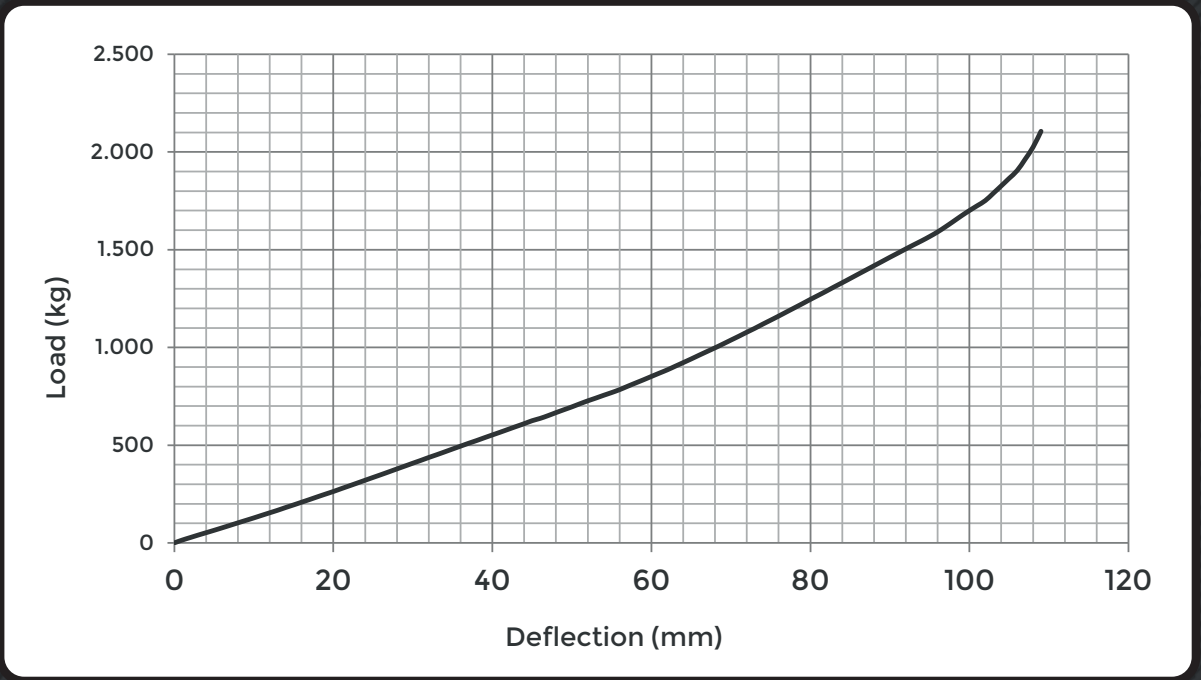
Test conditions

- **Test date:** 03/09/2020
- **Place of the test:** Ellebogen, Spain
- **Marine engine mount types:**
  - Ellebogen 100 (Ref. 128377-08351)
- **Testing equipment:**
  - Instron® 8801 Servo-Hydraulic Dynamic Test Bench
- **Maximum tensile load:** 2115kg

Video of the test:

Results

Ellebogen 100 tensile load-deflection curve:



Conclusions

- Although the metal parts have suffered important plastic deformations, the Ellebogen 100 marine engine mount has kept its structural integrity after being subjected to a 2115kg of tensile load.
- The tensile load of 2115kg is about 28 times the maximum nominal static load the marine engine mount is designed for (75kg). This means that even in this case a load of about 28g would not cause a catastrophic failure.
- In general, the load at which the marine engine mount has been tested is extremely unlikely to happen in real use. Therefore, Ellebogen considers that these marine engine mounts will not catastrophically fail under any dynamic load that can reasonably be expected in any real application.