

SAMPLE

PRELIMINARY TORSIONAL VIBRATION ANALYSIS OF
THE PROPULSION SYSTEM

REPORT: TVC 000-PC1.00

ISSUE: 1 / 2002-09-21

GENERAL DATA:

Engine type	Sample 2-stroke diesel engine
Max. continuous output	13,530 kW
Max. continuous speed	105 rpm
Classification	Sample

SHAFTING PARTICULARS:

Tuning wheel	N/A
Turning wheel	4,982 kg.m ²
Intermediate shaft	d = 460 mm, UTS = 600 N/mm ²
Propeller shaft	d = 560 mm, UTS = 600 N/mm ²
Shafting extension	N/A
Propeller inertia	63,700 kg.m ²

ANALYSIS RESULTS:

Main resonance	49.3 rpm
Crankshaft stress/limit ...	31.0 / 40 N/mm ² (SR = 0.78)
IntShaft stress/limit	126.6 / 114 N/mm ² (SR = 1.11)
PropShaft stress/limit	69.9 / 83 N/mm ² (SR = 0.84)
PropShaft torque	2410 kNm / 49.2 rpm

CONCLUSION:

NOT ACCEPTABLE

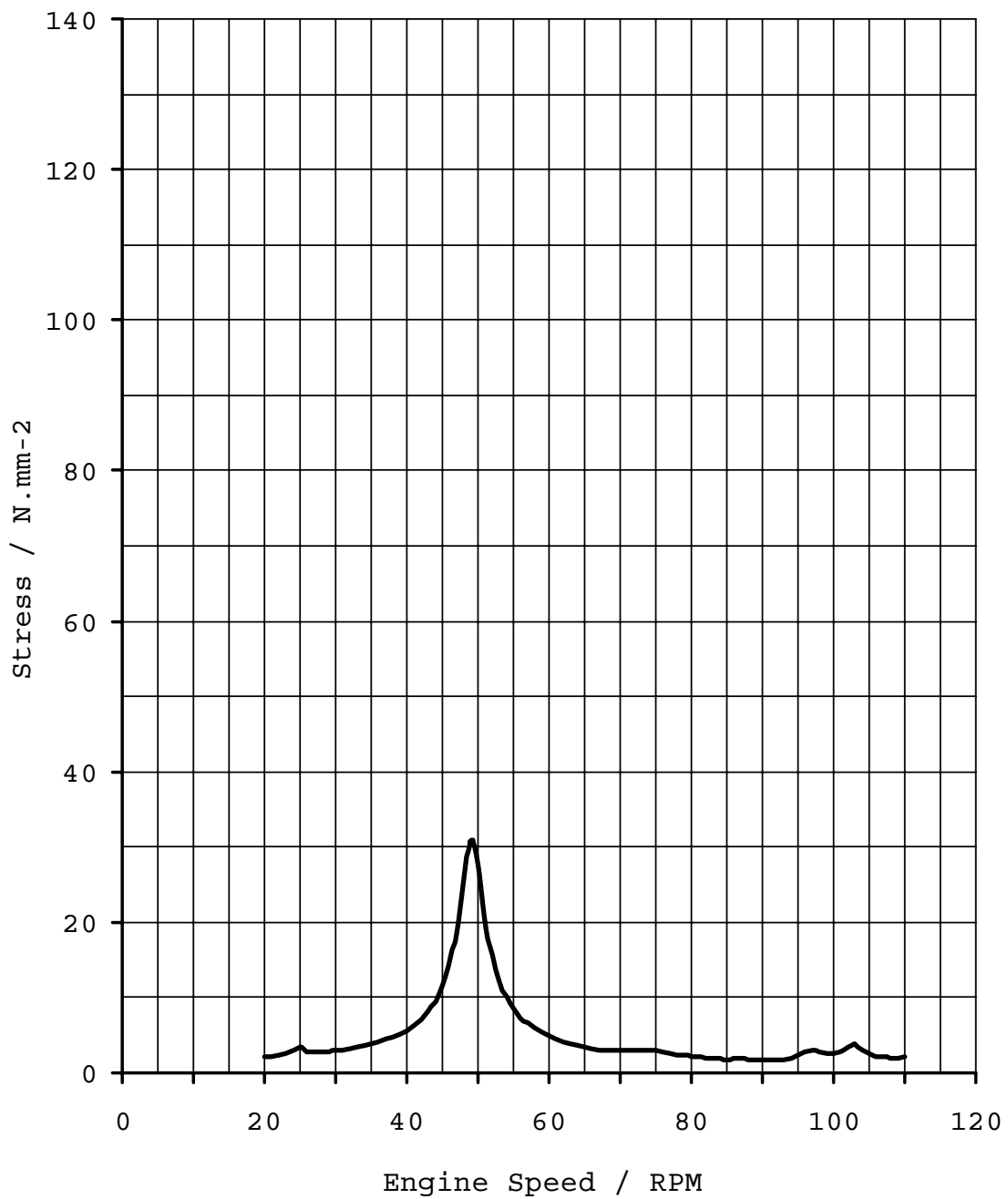
Signature: Date: 2002-09-21

PRELIMINARY

STRESS - SPEED DIAGRAM

CRANKSHAFT (CAMSHAFT DRIVE - TURNING WHEEL)
ELEMENT: 8-9

OPERATION: NORMAL
LOAD: PROPELLER LAW



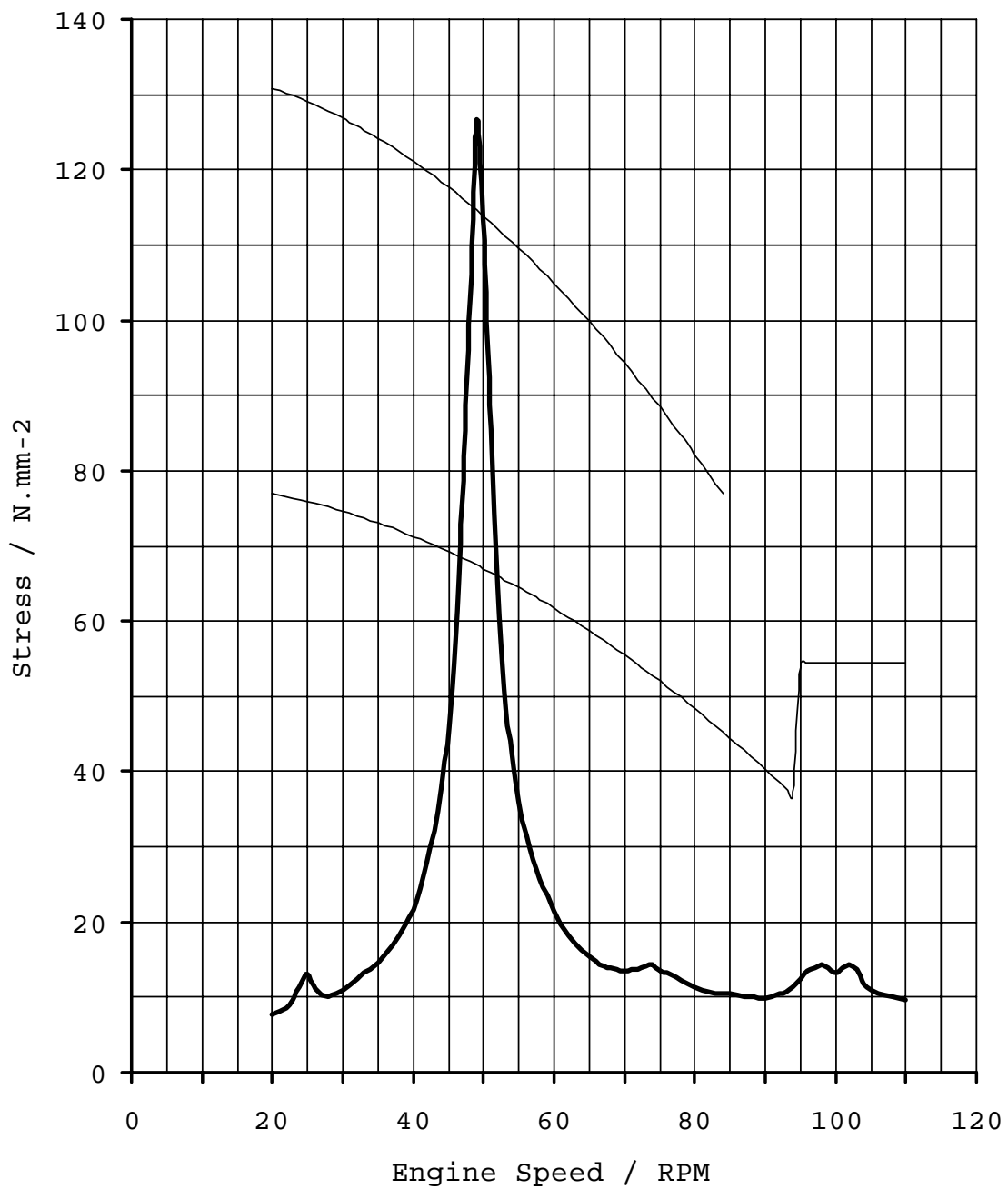
PRELIMINARY

STRESS - SPEED DIAGRAM

INTERMEDIATE SHAFT

ELEMENT: 9-10

OPERATION: NORMAL
LOAD: PROPELLER LAW

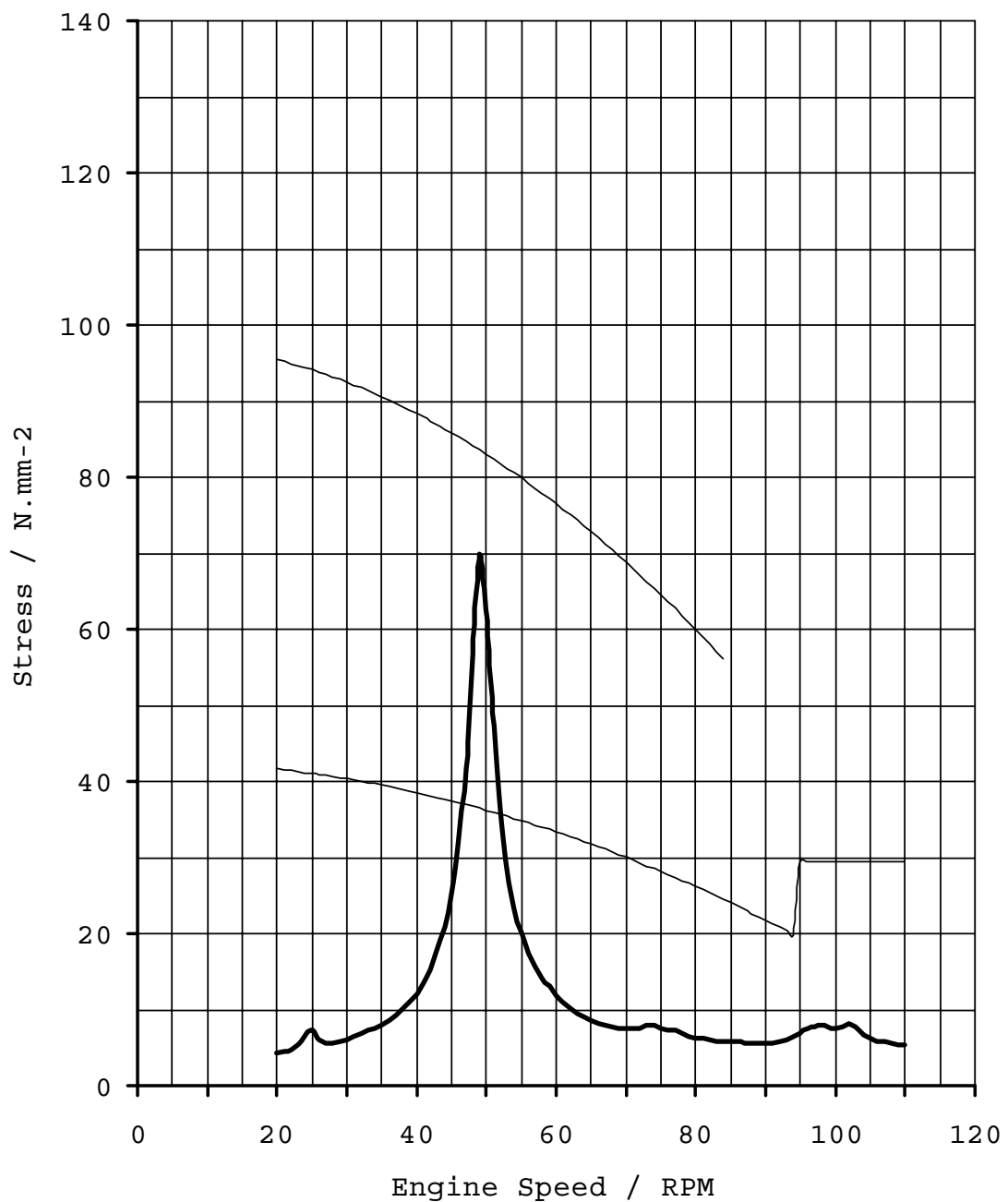


PRELIMINARY

STRESS - SPEED DIAGRAM

PROPELLER SHAFT
ELEMENT: 10-11

OPERATION: NORMAL
LOAD: PROPELLER LAW



PRELIMINARY

TORQUE - SPEED DIAGRAM

PROPELLER SHAFT
ELEMENT: 10-11

OPERATION: NORMAL
LOAD: PROPELLER LAW

