

NG COATING

NOISE & VIBRATION REDUCING PRIMER

NG COATING

NANO-TECH LABORATORIES DEVELOPED A NANO-ENGINEERED LOW DENSITY EPOXY PRIMER, TO DAMPEN MECHANICAL VIBRATIONS AND REDUCE TRANSMITTED SOUND. TYPICAL APPLICATIONS INCLUDE OVERLAY OF METAL AND COMPOSITE COMPONENTS

PRIMER PROPERTIES

Measurement	Method	Value
Glass Transition Temperature, °C	DSC-ASTM D3418	85
Resin Density, g/cm ³	-	1,1
Pot life @ Room Temperature, min	-	>120
Corrosion resistance, h	ASTM 9227-2006	500

- 1. PRIMER PREPARATION:** MIX PROPERLY THE RESIN WITH HARDENER (RATIO 100:30) FOR AT LEAST 3 MINUTES IN CASE OF LARGE VOLUMES
- 2. APPLICATION:** CLEAN THE SURFASCE FROM DUST, GREASE AND MOISTURE. TO ENSURE THAT THE SURFACE IS COMPLETELY FREE OF OIL AND GREASE, USE A LINT-FREE WHITE CLOTH WITH A SOLVENT SUCH AS ALCOHOL OR ACETONE AND WIPE THE SURFACE. NG COATING COULD BE APPLIED BY BRUSH OR, PREFERABLY, BY A SPRAY-GUN HORIZONTALLY, VERTICALLY OR OVER-HEAD. WHEN USING A SPRAY-GUN, IT'S RECOMMENDED A MEDIUM NOZZLE (1.7MM – 1.8MM). AT COMPLETION DRY AT ROOM TEMPERATURE (12H) AND APPLY A SECOND LAYER (SAME PROCEDURE)
- 3. CURING PHASE:**
CYCLE 1: 5H @ 70°C IN OVEN
CYCLE 2: 7GG @ 25°C

TECHNICAL CHARACTERISTICS

NG COATING IS A NANO-STRUCTURE 2K EPOXY VIBRATION DAMPING PRIMER FOR METAL AND COMPOSITE STRUCTURES

- LOW THICKNESS: <0.4 MM
- CORROSION PROTECTION: TESTED ON ALUMINIUM PLATES SOAKED 10 DAYS INTO SEA WATER AND SALT SPRAY TEST – 1,000 HOURS AS ISO 9227 (NEUTRAL SALT SPRAY – ASTM B117)
- SMOOTH SURFACE: CAN BE OVERCOATED AFTER SURFACE ROUGHENING
- EASY TO APPLY: CAN BE APPLIED BY SPRAY GUN HORIZONTALLY, VERTICALLY AND OVER-HEAD
- CURING: 10 HOURS @ 35°C + 7 HOURS @ 70 °C
- AVAILABILITY: SOLVENT AND SOVENT-FREE
- COLOUR: BLACK

DAMPING TEST #1

TESTS ON UNCOATED, NON NANO-STRUCTURED COATED AND NG COATING COATED DISKS

AUDIO REGISTRATION ROOM – QUALITATIVE ACOUSTIC VIBRATION DAMP TEST

TEST WAS CARRIED OUT BY DROPPING A 4,07 GR. STEEL BALL PLACED AT 18CM HEIGHT ON A 15CM DIAMETER, 1MM THICK STEEL ROUND DISK.

ACOUSTIC VIBRATION WAS RECORDED BY A MICROPHONE PLACED AT 10CM FROM THE METAL DISK.

COMPARATIVE TABLE BETWEEN COATED AND NON NANO-STRUCTURED COATED:

SAMPLE	ACOUSTIC DAMPING (%)	ACOUSTIC INTENSITY (dB)
NG COATING	-15	-7.9
NON NANO-STRUCTURED COATING	-10	-5.4

DAMPING TEST #2

TESTS ON UNCOATED, NON NANO-STRUCTURED COATED AND NG COATING COATED DISKS

KUNDT TUBE APPARATUS – ACOUSTIC VIBRATION DAMP TEST

ASTM E1050-12

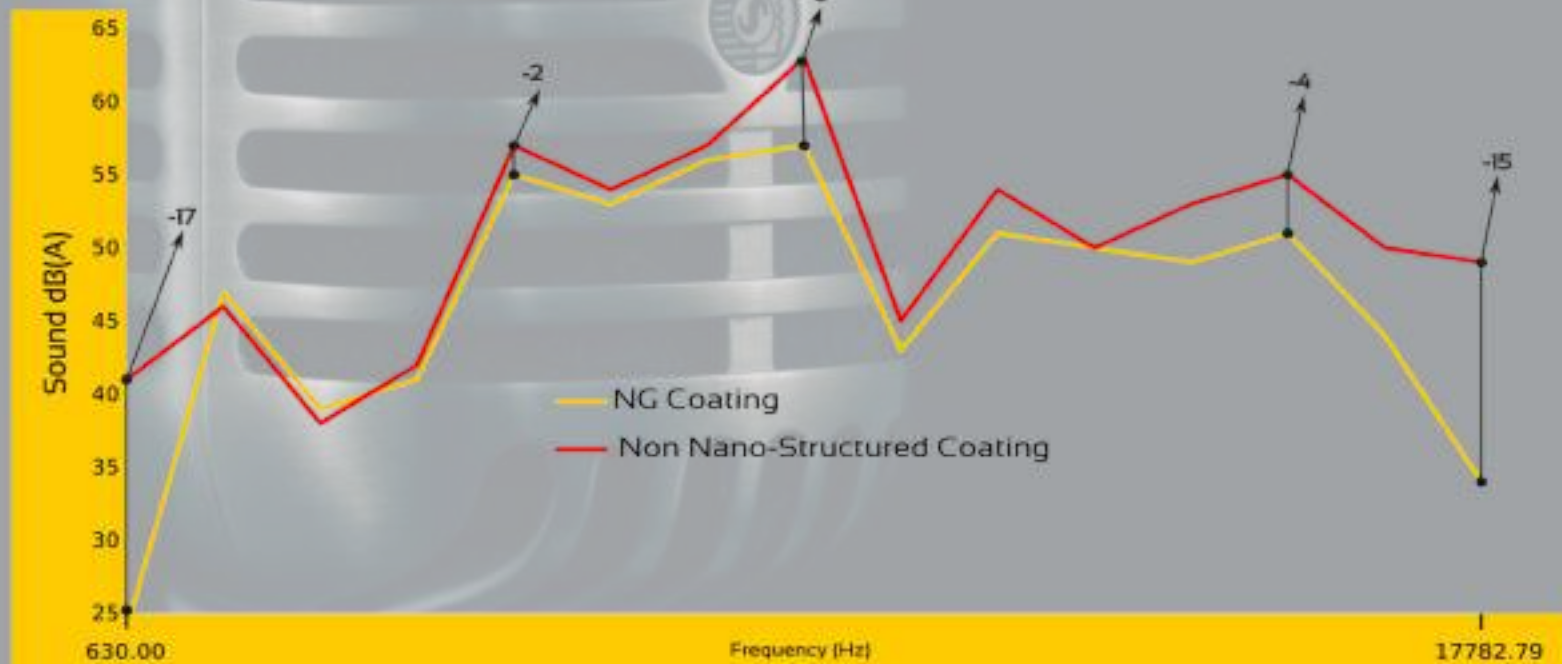
STANDARD TEST METHOD FOR IMPEDANCE AND ABSORPTION OF ACOUSTICAL MATERIALS USING A TUBE, TWO MICROPHONES AND A DIGITAL FREQUENCY ANALYSIS SYSTEM



DAMPING TEST #2

OVERALL DAMPING = 3dB (A)

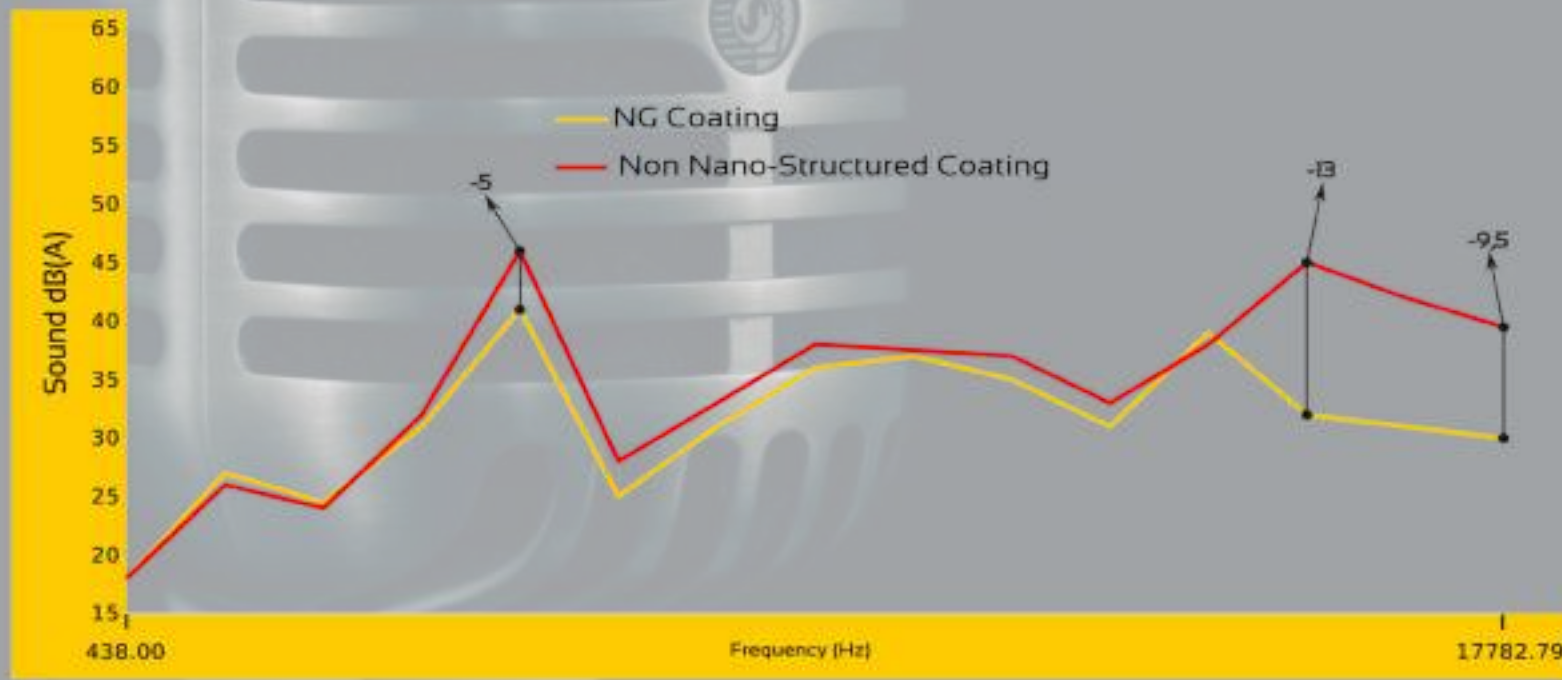
Sound Measure Near-field microphone spectrum on Non Nano-engineered coating and NG Coating



DAMPING TEST #2

OVERALL DAMPING = 4dB (A)

Sound Measure Far-field microphone spectrum on Non Nano-engineered coating and NG Coating



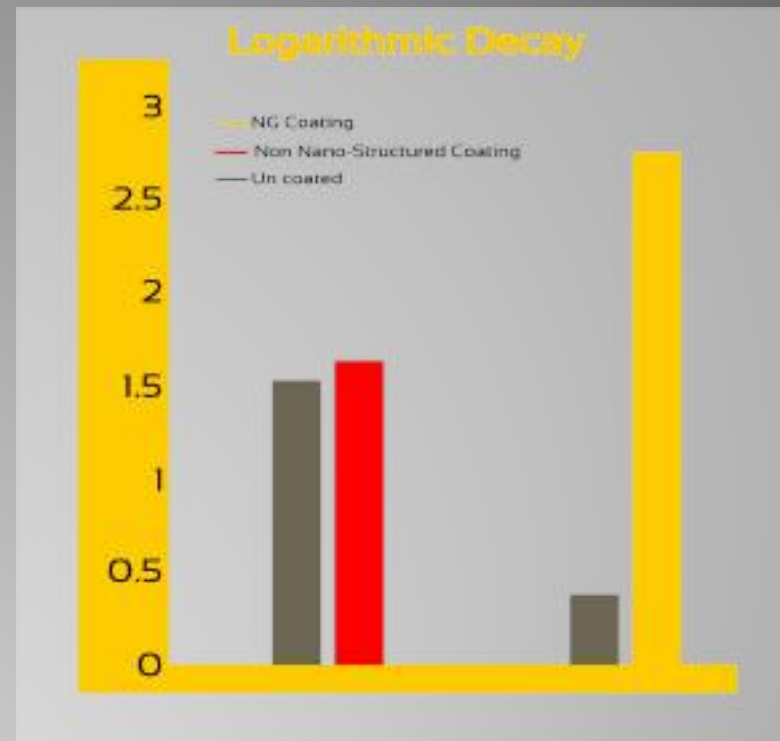
DAMPING TEST #3

TESTS ON UNCOATED, NON NANO-STRUCTURED COATED AND NG COATING COATED

THE OBER TEST (@ EXTENAL TESTING LAB)

ASTM E756-05

BASED ON A MULTILAYER CANTILEVER BEAM WHICH CONSISTS OF A BASE BEAM AND ONE OR TWO LAYERS OF OTHER MATERIALS

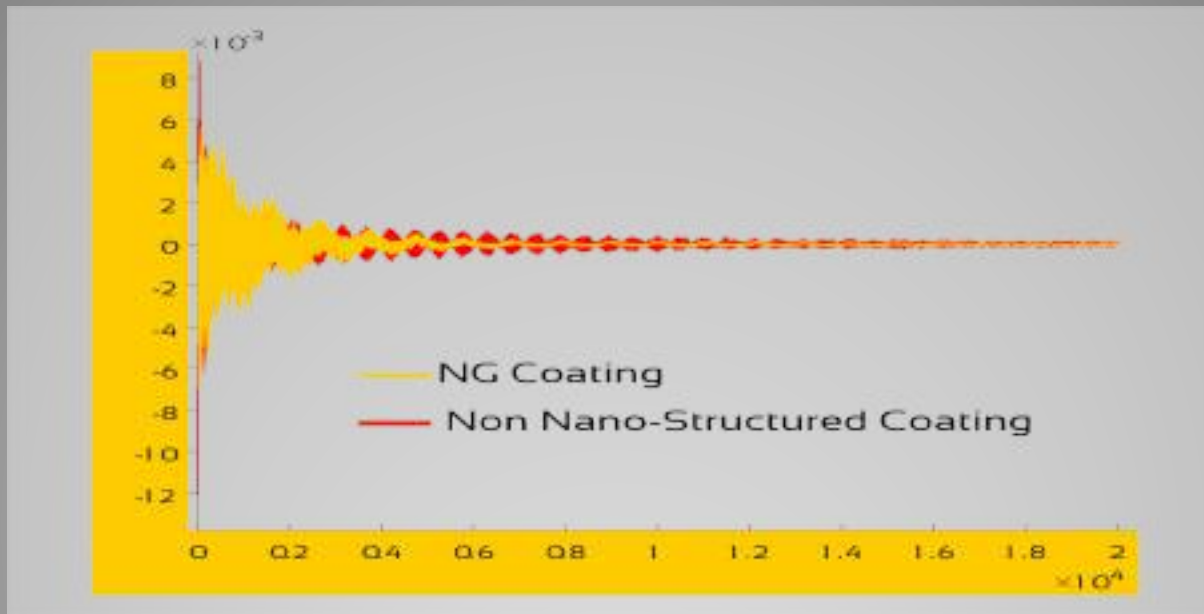


DAMPING TEST #3

TESTS ON UNCOATED, NON NANO-STRUCTURED COATED AND NG COATING COATED DISKS

TIME DECAY

ASTM E756-05



SALT SPRAY TEST

ISO 9227-2006

SOLVENT

AFTER 168 H	AFTER 336 H	AFTER 504 H
✓	✓	FORMATION OF SMALL BUBBLES, NO FILM DETACHMENT

SOLVENT FREE

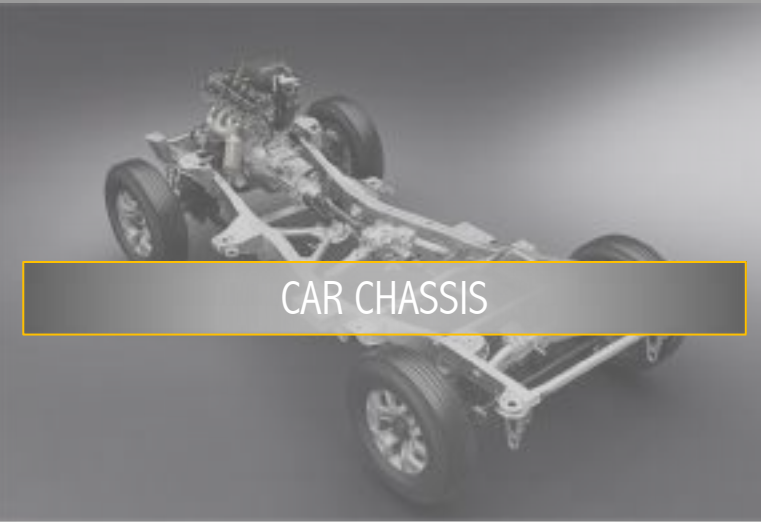
AFTER 168 H	AFTER 336 H	AFTER 504 H	AFTER 672 H	AFTER 750 H	AFTER 1,000 H
✓	✓	✓	✓	✓	✓



APPLICATIONS



WHITE GOODS



CAR CHASSIS



HELICOPTERS