

## DIMENSIONAL LAB

-CERTIFIED TEMPERATURE AND HUMIDITY-CONTROLLED ROOM (18 TO 25 DEGREES C)

-THREE COORDINATE MEASUREMENT MACHINES (CMM) WITH ZEISS CALIPSO® SOFTWARE INTERFACE

-OPTICAL COMPARATOR WITH MAGNIFICATION UP TO 50X CAPABILITY

-SURFACE AND ROUGHNESS MEASUREMENT SYSTEM

-SPRING TESTER QUALIFYING CAPABILITY

## \*CAD SERVICES

-NX EXPERTISE

3D MODELING & 2D DRAFTING FOR FIXTURES AND PRODUCTS  
NXOPEN API AUTOMATION (TOOLS DEVELOPMENT)

3D MODEL TRANSLATION TO ANY FORMAT (DXF, STP, XT, IGES, SGM, STL)

-TRAINING

GD&T BASICS TRAINING

TOLERANCE STACKS UPS TRAINING:

IDENTIFICATION OF UNKNOWN GAP OR

INTERFERENCE VECTOR DIAGRAM CREATION

DEMONSTRATION OF STACK UP TEMPLATE/ANY

OTHER CALCULATION FORMAT

MONTE CARLO

-CONSULTING

GD&T SERVICES

APPLICATION AND INTERPRETATION OF GD&T ON DRAWINGS.

ASME GDTP CERTIFICATION PROCESS

-SYSTEMS

CAD WORKLOAD AND METRIC MANAGEMENT  
SYSTEM DEVELOPMENT



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**Engineering  
Services**

-Dimensional Lab  
-Environmental Tests  
-Material Analysis  
-Vibration Analysis  
-Noise Analysis  
-CAE and CAD  
-Packaging

HERMANOS ESCOBAR 5756-B  
FOVISSSTE CHAMIZAL 32310  
CUIDAD JUAREZ, CHIHUAHUA

## MATERIAL ANALYSIS LAB

- MATERIAL FOCUS AREAS  
FERROUS METALS, NON-FERROUS METALS,  
POLYMERS, COATING MATERIAL, INTEGRITY,  
JOINING  
METHODS
- CHEMICAL ANALYSIS  
OPTICAL EMISSIONS SPECTROSCOPY
- THERMAL ANALYSIS  
THERMO GRAVIMETRIC  
THERMO MECHANICAL  
FILLER MATERIAL QUANTIFICATION
- MECHANICAL ANALYSIS  
ROCKWELL HARDNESS FOR METALS  
SHORE HARDNESS FOR POLYMERS  
MICRO HARDNESS (VICKERS, KNOOP &  
IRHDM)  
ULTIMATE TENSION STRENGTH (UTS), YIELD  
STRENGTH (YS), % ELONGATION
- FAILURE ANALYSIS  
FRACTOGRAPHY  
X-RAYS ANALYSIS  
X- RAYS MICROFLOURESCENCE  
FOURIER TRANSFORMED INFRARED (FTIR)  
DIFFERENTIAL SCANNING CALORIMETER  
(DSC)  
COEFFICIENT THERMAL EXPANSION (CTE)  
MELT FLOW RATE DETERMINATION
- VISUAL ANALYSIS  
STEREOSCOPY
- IMDS SERVICES



## ENVIRONMENTAL LAB

- THERMAL CYCLE CHAMBERS  
40 TO 150 DEGREES C  
CHANGE RATE 6 DEGREES C/ MIN  
27 AND 9 SQUARE FEET OF VOLUME  
(TWO SIZES)
- THERMAL SHOCK CHAMBERS AIR-TO-AIR  
-40 TO 150 DEGREES C  
>10 SECONDS TRANSITIONS  
27 SQUARE FEET OF VOLUME  
MAX 100 POUND OF PAY LOAD
- THERMAL SHOCK CHAMBER AIR-TO-WATER  
150 TO 0 DEGREES C  
>10 SECONDS TRANSITIONS  
27 SQUARE FEET OF VOLUME  
MAX 100 POUND OF PAY LOAD
- SALT FOG CHAMBER  
MIN TEMP 45 C  
MAX TEMP 80 C  
5% (TYPICAL) TO 10% SALINITY

## PACKAGING TEST LAB

- COMPRESSION TESTER
- INCLINE IMPACT TESTER
- DROP TESTER
- ENVIRONMENTAL AND  
CONDITIONING CHAMBER  
WITH VIBRATION TABLE
- RANDOM VIBRATION,  
IN-TRANSIT VIBRATION MODES
- TRANSPORTATION SIMULATOR



  
International Safe Transit Association  
Participating member of IATA & IATA standards

## \*CAE SERVICES

- COMPUTATIONAL FLUID  
DYNAMICS ANALYSIS
- HEAT TRANSFER ANALYSIS
- ELECTRO-MAGNETIC  
SIMULATION
- STRUCTURAL ANALYSIS
- ADVANCED COMPUTING OPTIMIZATION  
USING SIMULATION



## VIBRATION LAB

- ELECTRODYNAMIC VIBRATION TABLES  
VERTICAL AND HORIZONTAL DIRECTION  
1 AXIS AT A TIME  
5 TO 5000 HZ  
TEMPERATURE FROM -40 C TO 120 DEGREES C  
RANDOM, SINUSOIDAL AND COMBINED WAVE  
FORMS
- MECHANICAL SHOCK TEST EQUIPMENT  
UP TO 1000 G OF ACCELERATION

## NOISE ANALYSIS LAB

- SEMI ANECHOIC NOISE CHAMBERS  
ACOUSTIC AND VIBRATION TEST  
CHAMBER DIMENSION: 1.6 M X 1.6 M X 1.6 M  
MICROPHONES: 3.5 TO 2000 HZ, 138.5 DB RE 20  
MICRO PASCAL
- ACCELEROMETER TRI-AXIAL  
MEASUREMENT RANGE: +/- 50 G PK  
FREQUENCY RANGE (+/- 5 %) 5 TO 5000 HZ
- PRESSURE PULSATION  
MEASUREMENT RANGE (FOR +/- 5 V OUTPUT)  
200 PSI  
RESONANT FREQUENCY: >= 500 KHZ
- HYDROPHONES  
ELECTROSTATIC DISCHARGE AND MATERIAL  
CONDUCTIVITY EVALUATION (ESD ACCORDING TO  
SAE J1645)

\*CAD-COMPUTER-AIDED DESIGNOR

\*CAE-COMPUTER-AIDED ENGINEERING

