



HEMSHELL

Trust Certified



ISO 17025
NABL Accredited Lab
Certificate No. T 3154/3155
Certificate No. C 0328



LABORATORY TESTING SERVICES

India's First & The Largest Private Permeation Testing Laboratory



About Us:

Hemetek Techno Instruments Pvt. Ltd started in 1995 is exclusive distributor and service provider of Q.C. instruments from world's leading manufacturers like Mocon, Lloyd, RDM , Global Vision with an objective to provide professional solutions in testing, measurement & calibration fields to the growth oriented & quality conscious industrial segments.

Hemshell Services (Testing Division) is a sister concern of Hemetek Techno Instrument Pvt Ltd. established in 2002 to give Quality Laboratory Testing and Calibration services to various Industries .

Today, we provide solutions to improve quality standards for a wide range of Industries covering the Polymers, Plastics, Packaging, Pharmaceutical, Food, Engineering & Automotive sectors as well as to Educational - Research Institutions like IIT's & Defense Establishments .

We are a well known name in the areas of Permeation Testing, Physical Testing, Food & Water Microbiological Testing, and PET Polymer & Bottle Testing as well as automated solutions for proof reading, packaging artwork & texts in various fonts & languages

Our Focus:

- We provide accurate, reliable and timely results with the help of our highly motivated, trained & experienced professionals.
- We follow strict Quality control standards and accredited Methodologies.
- We establish a strong, long-term, professional relationship with our customers.
- We Carry out training and workshops to interact Continuously with our customers.



Our Achievements

- ▶ We are one of the first privately owned organizations to achieve the ISO17025 standard which was introduced by National Accreditation Board for Laboratory (NABL). We are now one of the few independent Laboratories to have accreditations in permeation testing for WVTR (Water vapor Transmission Rate) & OTR (Oxygen Transmission Rate).
- ▶ We cover high end permeation testing services involving Laminates, Flat films and Packages (Bottles, Blisters, and Pouches etc.) which have ISO 17025 (NABL) certification.
- ▶ Our Laboratory is selected by ASTM (American Society for Testing Materials) committee for round robin testing & we are representing as an Asian Laboratory.
- ▶ We have done the Proficiency testing with PIRA, UK successfully for WVTR & OTR.
- ▶ Hemshell services are Audited by Mocon, USA for WVTR & OTR Testing & got the Certification of MOCON.



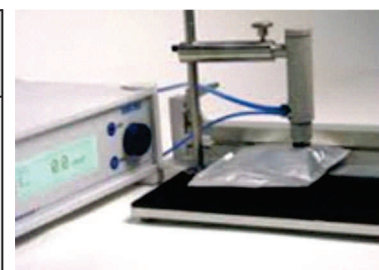
Our scope in Permeation Testing (WVTR & OTR)

Sr. No.	Product(s) / Material of test	Specific tests Performed	Test Method/ Standard against which tests are performed	Range of Testing/ Limits of detection	Uncertainty of Measurement+ (±)
1	Plastics-Barrier materials (Flat Films & Finished Packages) used in packaging applications.	Water vapor Transmission Rate (WVTR)	ASTM F 1249(2013)	0.005 to 5700 gm/(m ² .day) 0.0003 to 368 gm/(100 in ² .day)	0.008 gm/(m ² .day) 0.288 gm/(m ² .day)
2	Plastics-Barrier materials (Flat Films) used in packaging applications.	Water vapor Transmission Rate (WVTR)	ASTM E 398 (2013)	0.1 to 1000 gm/(m ² .day) 0.006 to 65 gm/(100 in ² .day)	0.019 gm/(m ² .day) 0.918 gm/(m ² .day).
3	Plastics-Barrier materials (Flat Films) used in packaging applications.	Oxygen Transmission Rate (OTR)	ASTM D 3985 (2005) (2010)e1 ASTM F 1927(2014)	0.005 to 4500 cc/(m ² .day) 0.0003 to 308 cc/(100 in ² .day)	0.292 cc/(m ² .day) 6.048 cc/(m ² .day).
4	Plastics-Barrier materials (Finished Packages) used in packaging applications.	Oxygen Transmission Rate (OTR)	ASTM F 1307 (2002) (2014)	0.00005 to 4.5 cc/(pkg.day)	0.092 cc/(pkg.day) 0.245 cc/(pkg.day)

Packaging: Advanced Package Testing Solutions & Package Integrity

Feathers: Lippke-4500 is used to check package integrity of rigid, semi rigid, Pouch & Laminate samples.

Leak Testing	Headspace Analysis	Package Strength	Shelf Life Analysis
<ul style="list-style-type: none"> ▶ Pressure Loss ▶ Leak Rate & Hole Size Determination 	<ul style="list-style-type: none"> ▶ O₂ ▶ CO ▶ Co₂ 	<ul style="list-style-type: none"> ▶ Burst Testing ▶ Peel Strength ▶ Creep Test ▶ Seal Strength 	<ul style="list-style-type: none"> ▶ Co₂ Transmission Rate ▶ Analysis of Beverage Bottles



Physical Testing Services

- › Tensile Testing
- › Compression Testing
- › Flexural Test
- › Shear
- › Bond
- › Tear Strength Testing
- › Seal Strength Testing
- › Coefficient of Friction Testing
- › Hot Track Testing
- › Puncture Testing
- › Food Texture Analysis
- › Load Hold Testing
- › Cycling Test
- › Peel
- › Customized Testing Solution



Training Program and Technical Support Services

- › Customised Testing Protocol Development (IQ/OQ/PQ) Services.
- › Lab Operator Training for Permeation and Mechanical/Physical Testing.
- › Permittation & Packaging Fundamentals Seminar/Training.
- › In-House Callibration and Demous of MOCON/DENSENSOR Gas Analysers & Gas Mixers.
- › On-Site Training.
- › Authorised Service Centre for Lloyed, Chatillon & Jofra Temperature, Pressure & Signal Calibrator.



Types of samples

Package Samples

- › Bottles
- › Containers
- › Glass vials
- › Flexible Pouches
- › Caps & Sealed Blister Cavities
- › Plastic Ampules & Plastic Respules



Film Samples

- › All types of plastic films & Laminates
- › Foils
- › Metalized Films
- › Paper Sheets
- › Rubber Sheets
- › Coated Films



Hemshell Services

Testing Division

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