

Decreasing Our Environmental Footprint

Reduce, Reuse, Recycle 

At Hi-Tech Seals, we understand the actions we take today will have a great impact on our lives tomorrow. As such, over the years we have invested in new programs and opportunities that allow us to reduce our waste and electricity consumption, reuse whenever possible, and recycle a plethora of items. Our dedicated employees are a key part of creating, developing, and implementing many of the successful initiatives we have adopted.

Combatting the negative effects heating systems have on the environment can be very difficult. To help mitigate this we've invested in a geothermal heating and cooling system at our Edmonton location. This system keeps our employees warm in the winter months and cool in the summer by transferring heat to and from the ground. Geothermal heat pumps produce 3-5 times more heat than the electric energy they consume; this means these systems have great thermal efficiency when compared with electric heaters. To further reduce our energy usage, we installed LED lighting across our locations. Aside from natural daylight, LED lights are the most energy efficient forms of lighting that can be used.


We encourage recycling in all our departments and facilities to reduce the amount of waste we produce. Our Rapid Seal manufacturing department saves virgin PEEK scrap parts and end pieces of billet and tube stock. Once enough is gathered, these pieces are shipped off to be recycled. In addition, we promote recycling paper by placing several large shredding bins around the office and smaller recycling boxes at the majority of em-

ployee's desks. To reduce paper waste, we continuously update procedures to go as paper free as possible; an example of this is our payroll system which is 100% paper free.

We recognize that even small efforts can have a big impact. All batteries we use are recycled once they reach the end of their lives. This ensures no batteries go to landfills where they may leak and could cause damage to the soil and wildlife. Our shippers and receivers reuse wood pallets whenever possible. Those that cannot be reused are shipped out to be refurbished.

Feeling inspired and want to reduce your environmental impact? Here are some ways you can help:

- Unplug electronics when they are not being used
- Create recycling programs for items such as plastic, glass, electronics, batteries, etc.
- Use biodegradable, non-toxic cleaning products
- Make recycling paper easier by having a recycling bins or boxes at all desks.
- Where possible use light sensors or turn off the lights when leaving an empty room


We will continue to explore new methods that will help us do our part in improving the environment for generations to come. 



Montreal Relocation

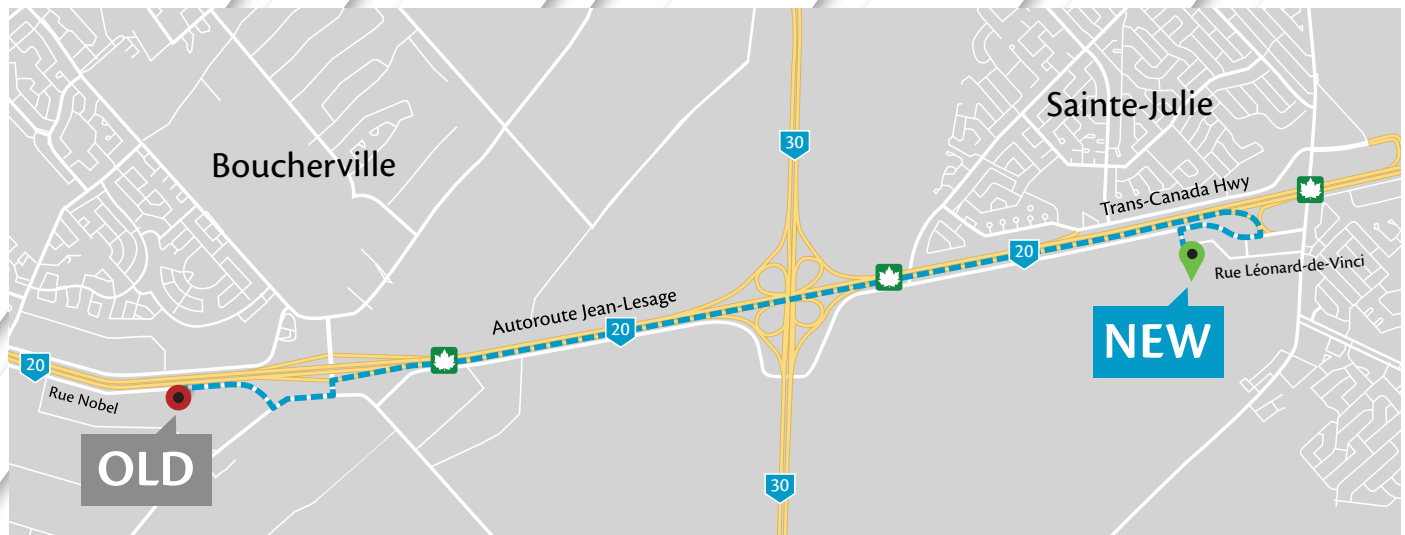
We Have Moved... Thank You for Your Patience!

We are excited to announce that our Montreal branch is fully operational out of the new facility in Ste. Julie and has been for some time. Our team would like to thank our customers for their patience throughout the moving process. We look forward to providing you with the same level of excellent service from our new facility.

The new and larger facility spans over 6150 sq. ft. The additional space will allow us to increase our on-hand inventory and grow our staff to better serve our customers. 

New Address:

Hi-Tech Seals Inc.
2101 Rue Léonard-De Vinci
Ste-Julie, QC J3E 1Z2
Canada



Rubber to PTFE Bonding

The Best of Both Worlds

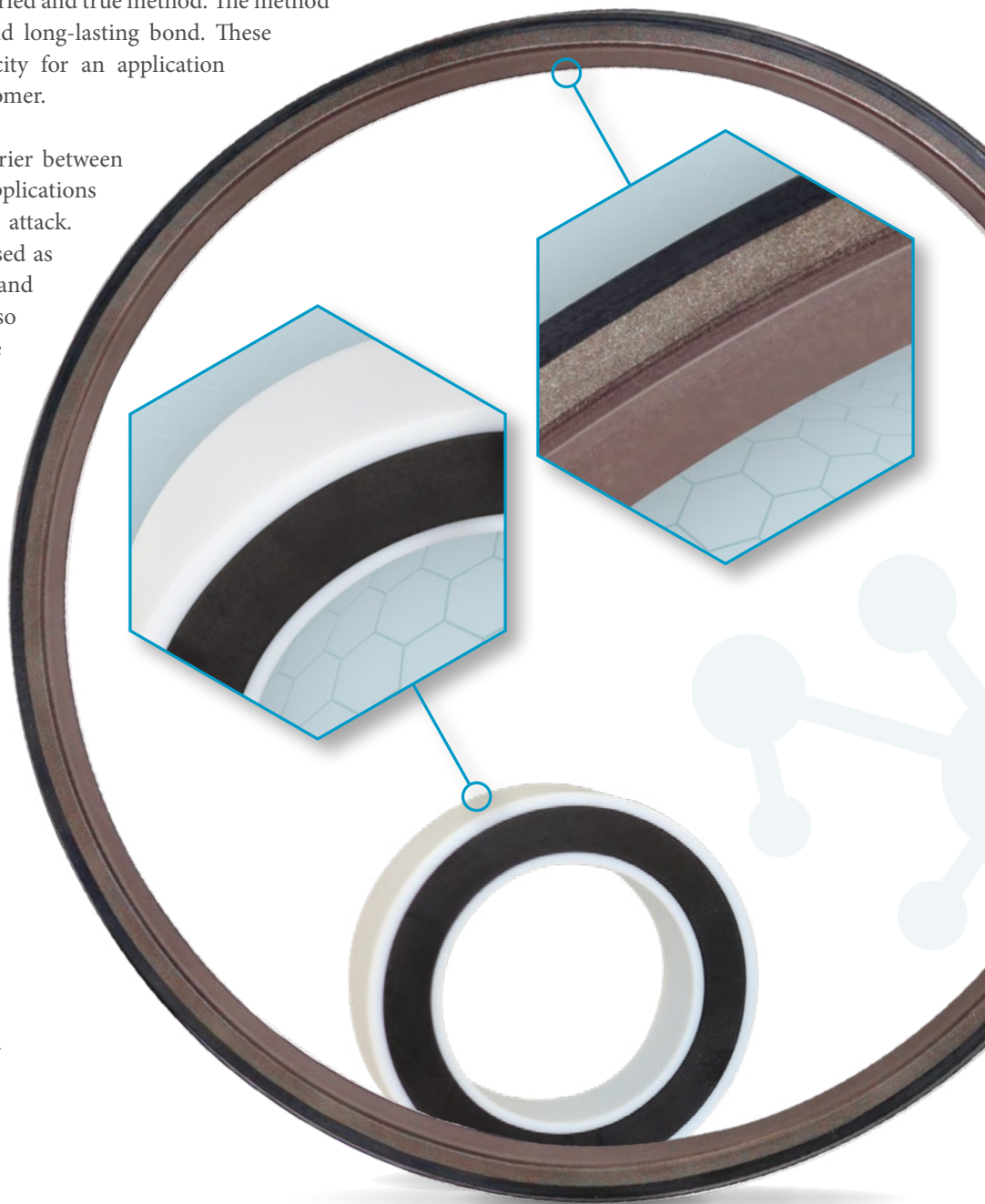
Polytetrafluoroethylene, more commonly referred to as PTFE, is widely known as a non-stick or slippery material. This can make it challenging to bond it to other materials, including elastomers. Because of this many companies shy away from suggesting PTFE bonded parts to customers even though an application may benefit from the characteristics a bonded seal would provide.

Unlike others, Hi-Tech Seals has embraced the challenge of creating rubber to PTFE bonded parts and implemented a tried and true method. The method we have developed offers a durable and long-lasting bond. These components offer the necessary lubricity for an application while retaining the elasticity of the elastomer.

The PTFE can be used as an inert barrier between aggressive chemical media in applications where an elastomer is prone to attack. Where needed, the PTFE can also be used as an anti-extrusion ring. Bonding rubber and PTFE components into one part can also simplify the installation process as there are less loose components.

We can bond a wide range of rubber materials to PTFE, including nitrile, hydrogenated nit-rile, EPDM, fluorocarbon, and silicone. Just as important as the rubber you choose is selecting the right PTFE for your application. The PTFE can be virgin or come modified with various fillers that augment the properties of the material to perform in specific way.

Curious if a rubber to PTFE bonded part would improve your application's performance? Contact a representative for more information on application dimension, capabilities, specific benefits, and more. Our experience in bonding rubber and PTFE could be the solution you need.



**Compound Data Sheet
H966**

Material: Hydrogenated Nitrile (HNBR)
HTS Compound #: H966

Conformance: ASTM D2000 M2DH920 A26 B16 B36 E016 E036 F17 Z1

Colour: Black

Description: Meets Norsok M710 RGD, TOTAL GS EP PVV 142 RGD, and API 6A Sour Gas Certification.



Effective: 04/01/2015
Revision: 1.0

Original Physical Properties	ASTM	Requirements	Results
Hardness, Shore A			
Tensile Strength, psi (MPa)	D2240	90 ± 5	88
Elongation, %	D412	2900 (min)	4536 (31.28)
Modulus at 100%, psi	D412	100 (min)	170

Requirements	Results
75 ± 5	77
(min)	3453
(n)	274
	48
	1158
	2723
	1.24
	+4
	-2
	-12
	-1.6

NORSOK Approved Materials

Hi-Tech Seals strongly believes in safety through seal performance and is committed to offering high-quality products and materials, proven through the most respected regulating bodies. We are proud to offer a range of compounds that have passed the strict NORSOK M-710 standard.

NORSOK came into effect in 1994, when there was a need for increased rules and regulations for the petroleum industry. Their standards are developed by the Norwegian petroleum industry to ensure safety, add value to, and improve cost effectiveness of industry developments and operations. NORSOK standards are internationally recognized specifications, due to their strict and practical test criteria.

NORSOK M710 standard defines the requirements for critical non-metallic (elastomer) sealing, seat, and back up materials for permanent use subsea, including well completion, control systems and valves. The standard also applies to topside valves in critical gas systems and ensures adequate safety, added value and cost effectiveness for existing, and future petroleum industry developments.

Our compounds have been third party tested to ensure they meet the rigorous measurements of the NORSOK M-710 (Rev.2) rapid gas decompression (RGD) standard.

What is Rapid Gas Decompression (RGD)?

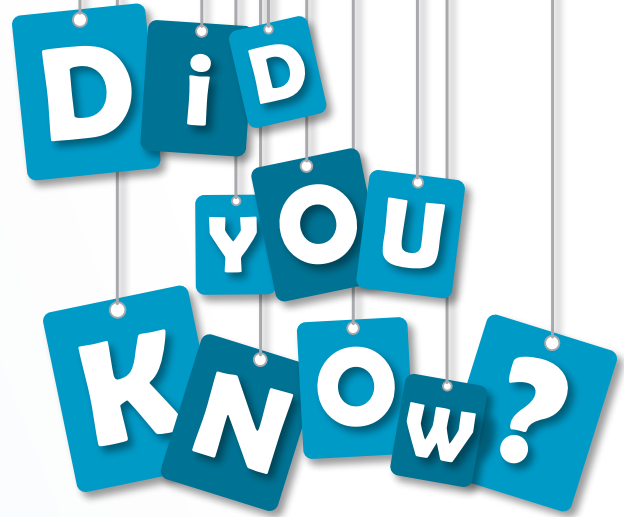
Under high pressure, gases permeate into the surface of an elastomer, seeping into the core of the material. This will happen until the internal pressure of a material creates an equilibrium with the external pressure of the fluid media. When the external pressure experiences a rapid and significant drop, the gases will escape in order to maintain equilibrium. This can cause extreme fissures and ruptures, causing reduced seal integrity and premature failure of the part.


Within our repertoire, we possess an array of different materials from various elastomer families. Our selection provides you the flexibility to tailor your seal selection to the environment in which you are operating. ...cont'd

COMPOUND NORSOK

Hi-Tech Compound	Material	Duro
V9M2	Viton™GLT (FKM)	90
H925	Hydrogenated Nitrile (HNBR)	90
H966	Hydrogenated Nitrile (HNBR)	90
PF91	Perfluoroelastomer (FFKM)	90
A912	Tetrafluorethylene-Propylene Copolymer (Aflas® - FEPM)	90

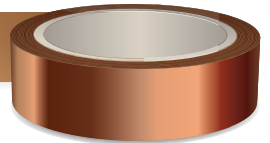
Many of our NORSOK RGD compounds meet various other standards, including but not limited to Nace TM0297 RGD, TOTAL GS EP PVV 142 RGD, and API 6A Sour Fluid Resistance. Contact us for more information on these and other Hi-Tech Seals compounds.



NORSOK officially stands for “Norsk Søkkel Konkurransesisjon”, which means the Norwegian shelf’s competitive position. 

Kapton Tape


For Your **HARSHEST** Applications

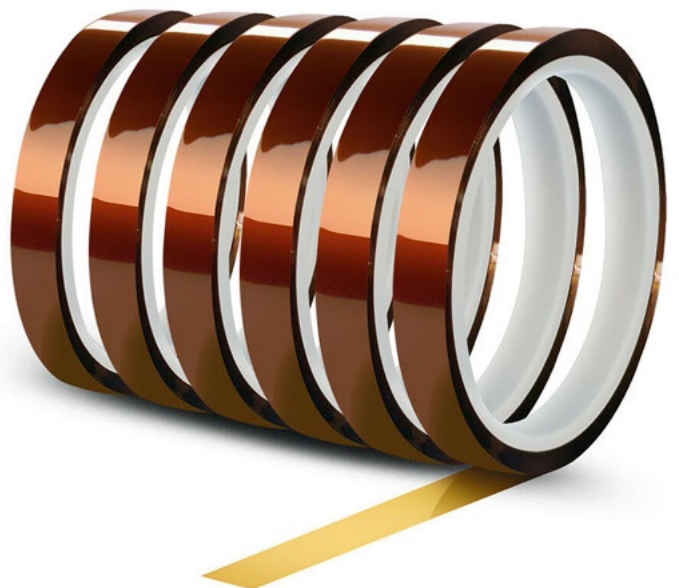


Kapton® tape, also known as polyimide tape, is coated with a silicone adhesive. Polyimide is an excellent tape material for applications with temperature extremes. It can be used in temperatures as high as 260°C/500°F, and as low as -269°C/-452°F. With its high dielectric properties and conformance to MIL-P 46112, TYPE I, Kapton® Tape can be used in a wide variety of industries and applications, including:

- MWD
- Automotive
- Semiconductor manufacturing
- Electrical
- High temp. environments
- Etching

The silicone adhesive coat ensures that no residue is left behind when the tape is removed, allowing for quick and easy clean up. Kapton® tape is capable of withstanding vibrations and demanding environments due to its great electrical, thermal, chemical and mechanical properties. The high strength of the tape ensures tear and puncture resistance. Polyimide tapes are transparent to enable observation of circuit boards during processing.

The tape is ideal for high-temperature coils insulation and for generators, capacitors & transformer production. We stock Kapton tape® in a range of sizes, with the most common sizes being 0.500”, 0.750”, and 1.000” widths. 



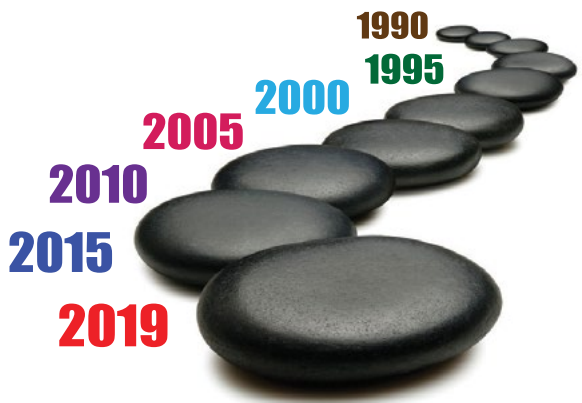
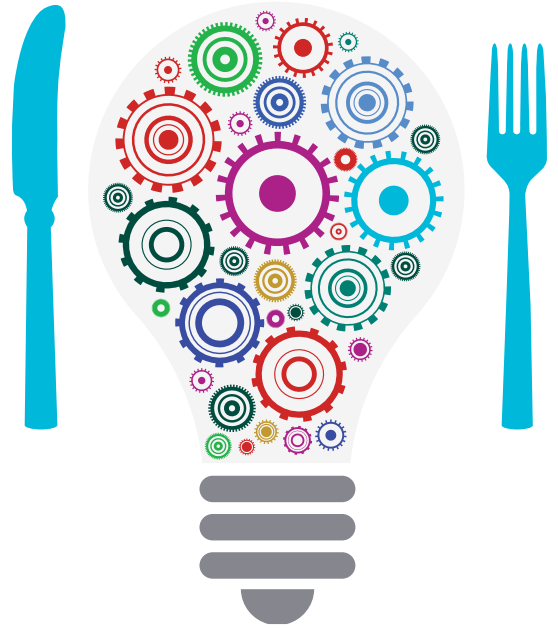
Lunch & Learn

Training Seminars

As a company, Hi-Tech Seals places great importance on the education and development of not only our staff, but our customers as well. We pride ourselves on distributing relevant information via our website, various literature, and Tech Talk newsletters. Sometimes it is beneficial to have a more interactive learning experience and this is where our Lunch & Learn trainings sessions come in. These seminars allow our customers to engage with our technical staff face to face, ask questions, handle parts, and learn about our product and service offerings.

Our Lunch & Learn trainings can be tailored to cover information that our customers deem relevant and useful. They can be presented to any size group and vary in length and complexity based on the needs of the customer. During the training, all those that attended are treated to lunch on us!

To organize a Lunch & Learn training seminar for your company, contact us today! Restrictions and conditions may apply. ☺



MILESTONES

We are pleased to share with you employees that have achieved milestones of service in recent months.



Gordon Enright

From all of us at Hi-Tech Seals, we thank you for your hard work and dedication over the years. ☺

We'll See You There!

Upcoming Trade Shows



FOCUSED ON ENERGY

If you are in New Orleans, LA., October 9th, 10th, or 11th be sure to visit us at the Louisiana Gulf Coast Oil Expo (LAGCOE). We are located across from the meet up zone, in booth #320. LAGCOE's vision is to be a robust, sustainable community

of energy companies and volunteers that promote energy education and awareness; connects businesses with opportunities and; highlights the Gulf Coast's technical innovations to the world. ☺

DEFINING TERMS

Technical Terminology and What They Mean

Adhesive

A nonmetallic substance that is applied to one or both surface of two separate items. It is capable of holding materials together in a functional manner and resists separation.

Coefficient of thermal expansion (CTE)

Fractional expansion in the size of a material upon heating. May be linear or volumetric.

Cure

Crosslinking of any elastomer material to produce a toughened or harder polymer. Similar to vulcanization.

Inert filler

A filler added for cost or processing reasons that has little effect on physical properties.



HTS Word Search

Complete the word search and you could win a Bluetooth Speaker from **BOSE**[®]
Better sound through research[®]

E F T P O T R E B B U R E N E
A O S N T H G I R N E P O L D
X U L T E W F J N N A R W A U
X S Y B A M C Z X T S C K M C
Z G B Z K N N A N O X R T R A
K C R Y N B D O K E N T O E T
I H X B K H T A R W C W V H I
E S V U E P P Z R I I Y W T O
H Z E S A P K Y R D V O X O N
M C I K R Z X E Z U S N R E Q
R V N O S T E J U L I E E G V
E S V U N D J V V D U X S I A
G E X F L N B Y E J B F C U E
D P W V H O W K O Q T P Z Q A
Z I I C O B L Q M V R D T C U

- | | | |
|-----------|-------------|-----------------|
| ADHESIVE | ENVIRONMENT | NORSOK APPROVED |
| BOND | GEO THERMAL | RUBBER TO PTFE |
| EDUCATION | KAPTON TAPE | STANDARDS |
| ENRIGHT | LUNCH | STE-JULIE |

Please fax your responses to 780.409.9149 by October 31st, 2019.

Name: _____
Company: _____
Location: _____
Day Time Phone #: _____

Congratulations to last edition's Trivia winner, Elaine Hughes!

Hi-Tech Seals Branches:

Head Office & Branch | 9211 - 41 Ave NW | Edmonton, AB | T6E 6R5 | Ph: 780.438.6055 | Fax: 780.434.5866

Manufacturing Centre | 9504 - 41 Ave NW | Edmonton, AB | T6E 6G9 | Ph: 780.439.4894 | Fax: 780.436.9502

Calgary Branch | Bay #3, 5940 - 30 St. SE | Calgary, AB | T2C 1X8 | Ph: 403.720.2856 | Fax: 403.279.2662

Winnipeg Branch | 445 Egesz St. | Winnipeg, MB | R2R 2V5 | Ph: 204.775.7881 | Fax: 204.775.7954

Toronto Branch | 1180 Kerrisdale Blvd; Unit #8 | Newmarket, ON | L3Y 8Z9 | Ph: 905.953.9666 | Fax: 905.953.8739

Montreal Branch | 2101 Rue Léonard-De Vinci | Ste-Julie, QC | J3E 1Z2 | Ph: 450.655.7325 | Fax: 450.655.7359

Conroe Branch | 12064 FM 3083 | Conroe, TX | United States | 77301 | Ph: 936.206.3124 | Fax: 936.756.0538