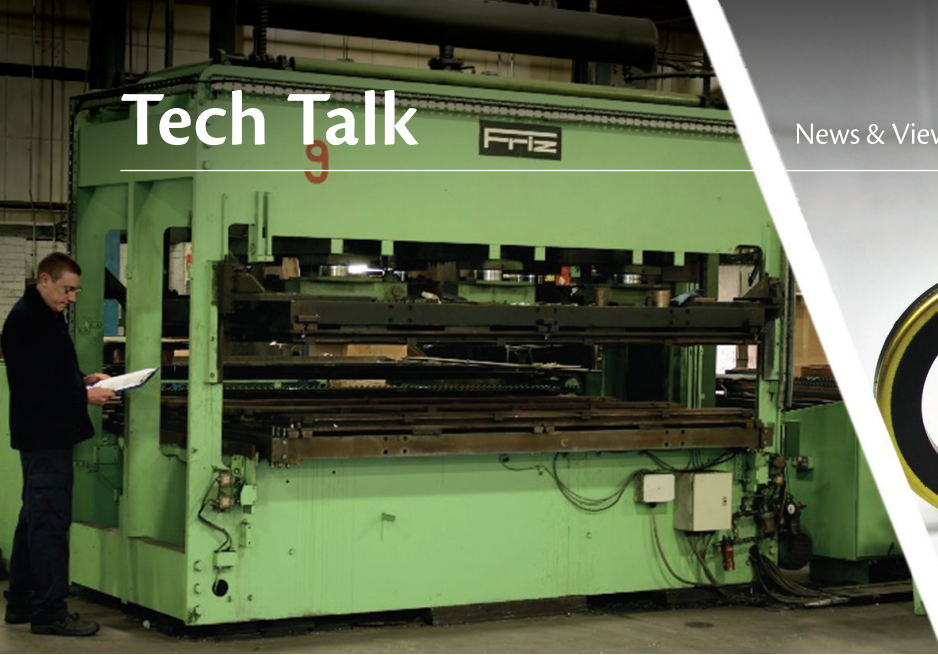




News & Views from Hi-Tech Seals
Vol. 38 | December 2014

O-Ring Cones

Hi-Tech Holiday Edition



Hi-Tech Seals Partners with Can-Tech Elastomers

Creating a Variety of High Performing Products

Hi-Tech Seals has a partnership with a Northern Ireland based rubber-moulding specialist, Can-Tech Elastomers Ltd. This partnership offers Hi-Tech Seals' customers access to an engineering resource with 25+ years experience in developing high performance rubber components for the oil and gas industry. Key areas include wellheads, safety valves, wireline, gas lifts, completion packers, and swellable & abandonment products.



Can-Tech Elastomers Ltd.

All of Can-Tech's products utilize high-end materials and are moulded in-house. This ensures for full traceability of parts and close control of the moulding process. Can-Tech can also facilitate the manufacturing of short runs and made-to-order products. Can-Tech's key product lines include:

- Swellable Packers
- Specialty Vee Packing
- T-Seals
- Bonded Seals
- Custom Moulded Products
- O-Rings

In-mould vulcanized rubber-to-metal bonding is commonly utilized across the Can-Tech product range. Their expertise in this area helps create quality parts that outperform customers' expectations. In-mould vulcanized bonds differs from other bonding techniques as a unique chemical reaction occurs between the materials. This reaction creates a stronger, longer lasting bond that can better withstand the part's environment over an extended period of time.

For engineered components requiring improved extrusion resistance, burst resistance, or directional mechanical stiffening, Can-Tech has considerable experience in reinforcing materials with fabrics and fibres. Prevalent fabrics used for reinforcing materials include polyester, nylon, aramides; prevalent fibres include Kevlar®, carbon and Nomex (individually or in combination). Common fabric reinforced products include vee packing, packer elements, inflatable clamps, pump packing, and diaphragms.

Can-Tech works closely with Europe's leading compound specialist. Together they have developed an extensive range of high performing, field proven elastomer compounds. Customers can expect a zero percent material failure rate from a Can-Tech service recommendation. A variety of materials are available through Can-Tech, including:

- Perfluoroelastomer (FFKM)
- Nitrile (NBR)
- Hydrogenated Nitrile (HNBR)
- Aflas™
- Viton®(FKM)
- And more

Can-Tech applies its expertise across a variety of industrial applications, assists with trouble shooting, and the research & development of new products, materials, and projects. For more information on Hi-Tech Seals' partnership with Can-Tech, contact a Hi-Tech Seals' representative.



Highly Saturated Nitrile

Carboxylated Nitrile, A Thing Of The Past

Highly Saturated Nitrile (HSN) is commonly used as a rubber sealing material for the oil and gas industry. HSN has great extrusion properties, superior chemical resistance in aggressive environments and similar or improved wear properties over CBX. Due to these characteristics, HSN has increasingly become the favoured material over CBX. HSN also provides superior high and low temperature ranges when compared with CBX.

Materials	Temp. Range
Highly Saturated Nitrile (HSN)	-40°C to 160°C
Carboxylated Nitrile (CBX)	-20°C to 135°C



Hi-Tech Seals carries two new high modulus and internally lubricated HSN compounds, H9MG and H9MY. Both compounds are specifically designed for use in oilfield downhole applications. Internal lubricants offer improved wear and dynamic properties. H9MG and H9MY compounds are 90 durometer and are designed for use in the most aggressive environments.

For more information on H9MG and H9MY compounds contact a Hi-Tech Seals representative or visit us online at www.hitechseals.com.

HNBR & Genuine Viton® Sheet Material

New at Hi-Tech Gaskets

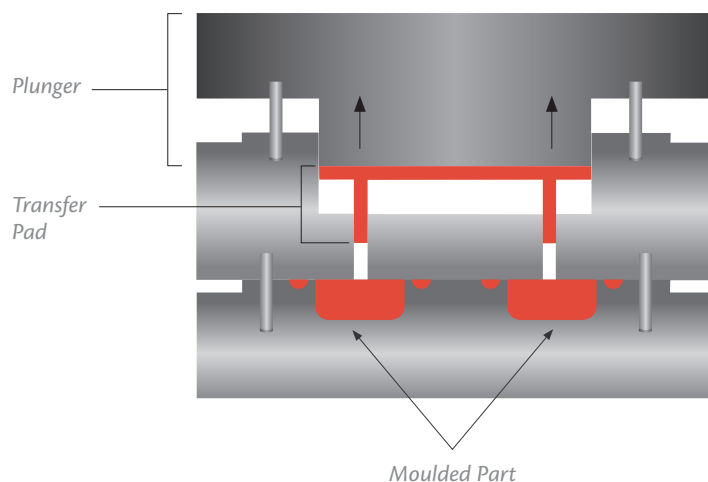
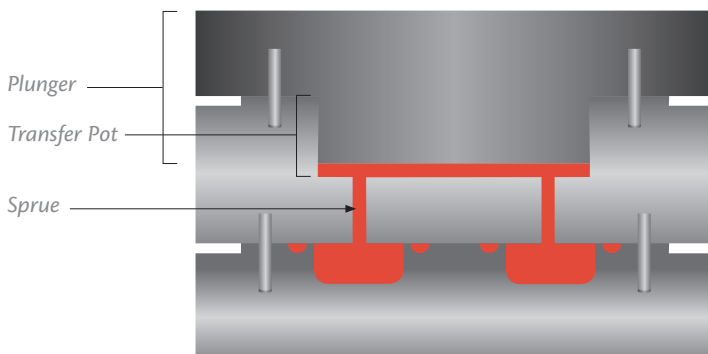
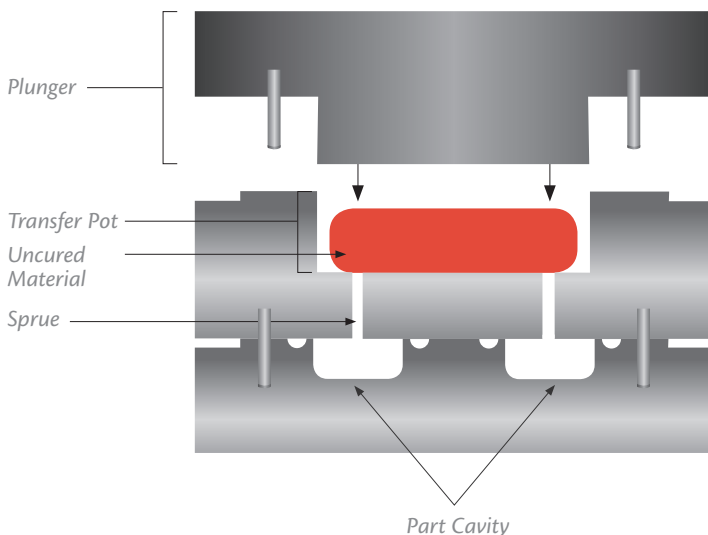
Hi-Tech Gaskets stocks an extensive inventory of rubber, plastic, composite and metal materials. This inventory now includes HNBR and Genuine Viton® sheet material. For more information contact a Hi-Tech Seals' or Hi-Tech Gaskets' representative.



Technically Speaking

Transfer Moulding

This edition of Technically Speaking will continue with the fifth installment in a six part series on moulding techniques. Previous editions have introduced five different types of moulding techniques, and covered compression, injection, and cast moulding. This installment will discuss transfer moulding.



Transfer moulding is an intermediate moulding method between compression and injection moulding. While less complex than an injection mould, transfer moulding has shorter cycle and cure times than those of compression moulding. Transfer moulding can also achieve tighter tolerances than compression moulding.

Transfer moulds are comprised of 3 or more steel plates. The “plunger” is located on the top plate. The second plate houses the “transfer pot”. The bottom plate is where the mould cavity is located. Additional plates can be added for more complex parts.

An uncured, pre-heated rubber preform, of a set weight, is placed into the transfer pot. The walls are pre-heated to a temperature above the melting point of the material. When the plunger closes, the pre-heated material is forced through the sprues into the mould’s cavity. The part is kept in the mould until it has cooled and cured. The excess material left in the pot, called transfer pads, is removed and discarded.

Transfer moulding is well suited for moulding delicate parts. The consistent pressure applied to the uncured material by the plunger allows the material to be evenly distributed to all corners of the mould’s cavity. Transfer moulding is also well suited for manufacturing parts with metal inserts.

For more information on transfer moulding, contact a Hi-Tech Seals’ representative.

Low Temperature Materials

Eliminate Costly Down Time in Below Freezing Temperatures

Typically, when selecting a material for an application, there are many variables to consider. When an application is exposed to the harsh, cold temperatures of winter, Hi-Tech Seals recommends evaluating which materials will meet the temperature requirements, in conjunction with other variables. Selecting an improper material for below freezing temperatures can cause a seal to crack and potentially leak, resulting in costly downtime.

Materials	Low Temp. Range
Highly Saturated Nitrile (HSN)	-40°C / -40°F
Low Temperature Nitrile	-54°C / -65°F
Viton® GLT	-40°C / -40°F
PTFE	-200°C / -328°F

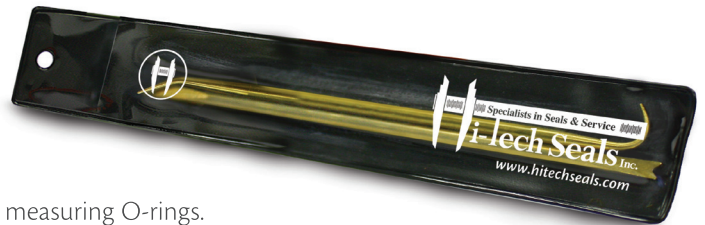
Hi-Tech Seals offers a wide range of low temperature materials, including Highly Saturated Nitrile, low temperature Nitrile, Viton® GLT, PTFE and select perfluoroelastomers. Our experienced technical sales and engineering departments can assist with determining which material is ideal for an application's low temperature sealing needs.

To learn more about low temperature materials, contact a Hi-Tech Seals' representative.



Brass O-ring picks

Hi-Tech Seals carries brass O-ring pick sets. These sets assist with the removal of O-rings, without damaging the seal or the associated components. The brass tips prevent scoring and scratching of critical material surfaces.



Hi-Tech Seals also carries O-ring cones and Pi Tapes® that assist with measuring O-rings. To learn more about our brass O-ring pick sets, O-ring cones, and Pi Tapes® contact a Hi-Tech Seals' representative.

Did you know...

Hi-Tech Seals has over a 99.7% shipping accuracy, which we have maintained for over 2 years.



Available Now

Our New Seal Catalogue

The 3rd volume of Hi-Tech Seals seal catalogue is now available. The catalogue includes updates on:

- New products
- Manufacturing capabilities
- Engineering lab capabilities
- Updated product content
- And more

To request a copy of our new seal catalogue contact a Hi-Tech Seals' representative, or download a digital copy online at www.hitechseals.com.



Milestones

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

Ten years of service:

Dustin Jackson
Judy Cross

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



Hi-Tech Holiday Hours

From everyone at Hi-Tech Seals and Hi-Tech Gaskets, we would like to wish you a happy and safe holiday season.

Locations	Regular Hours	Dec. 24	Dec. 25	Dec. 26	Dec. 31	Jan. 1	Jan. 2	On-Call Numbers
Edmonton, AB	7:30 - 5:30 pm	7:30 - 1:00 pm	CLOSED	CLOSED	7:30 - 3:00 pm	CLOSED	CLOSED	780.438.6055
Calgary, AB	7:30 - 5:00 pm	7:30 - 1:00 pm	CLOSED	CLOSED	7:30 - 3:00 pm	CLOSED	CLOSED	403.720.2856
Winnipeg, MB	8:00 - 5:00 pm	8:00 - 1:00 pm	CLOSED	CLOSED	8:00 - 3:00 pm	CLOSED	CLOSED	204.775.7881
Newmarket, ON	8:00 - 5:00 pm	8:00 - 1:00 pm	CLOSED	CLOSED	8:00 - 3:00 pm	CLOSED	CLOSED	905.953.9666
Boucherville, QC	8:00 - 5:00 pm	8:00 - 1:00 pm	CLOSED	CLOSED	8:00 - 3:00 pm	CLOSED	CLOSED	450.655.7325
Conroe, TX	8:00 - 5:00 pm	8:00 - 1:00 pm	CLOSED	CLOSED	8:00 - 3:00 pm	CLOSED	CLOSED	936.206.3124
Hi-Tech Gaskets	8:00 - 5:00 pm	8:00 - 1:00 pm	CLOSED	CLOSED	8:00 - 3:00 pm	CLOSED	CLOSED	780.438.6055

For those experiencing a sealing or gasket emergency, Hi-Tech Seals offers an after-hours, on-call service. To reach an after-hours representative, contact the nearest Hi-Tech Seals' location from the numbers listed above. **Service charges apply.**



Hi-Tech Seals' Word Search

Complete the word search below and be entered to win an *Apple TV*.

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

- CAN TECH
- BONDED SEAL
- RUBBER TO METAL
- POLYESTER
- NITRILE
- HNBR
- TRANSFER MOULD
- PLUNGER
- PREFORM
- SPRUE
- LOW TEMP.
- O-RING PICK
- JACKSON
- CROSS

Please fax your responses to 780.409.9149 by January 15th, 2015.

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

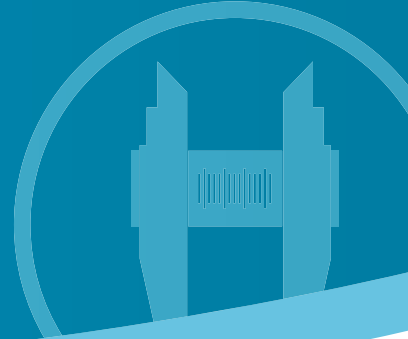
Congratulations to last edition's word search winner, Elizabeth Hatherly.





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

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

1450 Rue Nobel, Suite #20 | Boucherville, QC | J4B 5H3 | Ph: 450.655.7325 | Fax: 450.655.7359

105 Gladstell St. | Conroe, TX | 77301 | Ph: 936.206.3124 | Fax: 936.756.0538

Hi-Tech Gaskets:

8760 50 Ave NW, | Edmonton, AB | T6E 5K8 | Ph: 780.439.4894 | Fax: 780.436.9502

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