QUALITY AND SAFETY, A TRADITION OF EXCELLENCE

OWEN OIL TOOLS LP

X-SPAN® SYSTEMS

Tubing/Casing Patch Technologies

Core Lab
RESERVOIR OPTIMIZATION

OCTOBER 2013

STANDARD X-SPAN® SYSTEM

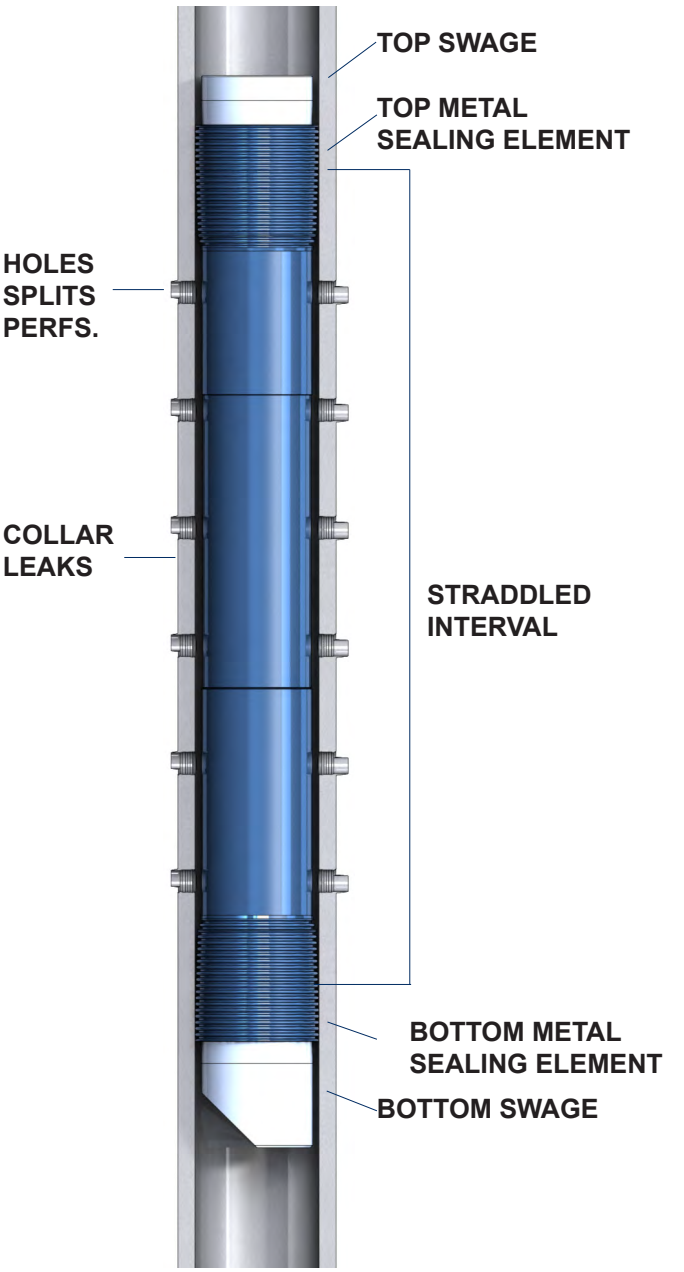
Continued advances in X-SPAN® technology have enabled us to lead the industry with the most reliable patch on the market, and remains a very economical way to seal perforations, splits, leaking connections and a variety of damaged wellbores. This system was engineered for high temperature and high pressure applications. In short straddle situations our connection free Mono-Fit Systems are available in lengths up to 25ft.

X-SPAN® TUBING/CASING PATCH LINER

The Tubing/Casing Patch consists of three basic components: a top soft metal element; the required length of tubular spacer extensions; and a bottom soft metal element. As the system is modular, various patch lengths can be obtained by adding tubular extensions. Only the top and bottom elements are swaged outward during the setting process. The tubular extension is not swaged.

During the setting process, the pressure setting tool exerts a pushing force on the top tapered metal swage and a pulling force on the bottom tapered metal swage. Both swages are driven into the soft metal sealing elements which expand into metal to metal sealing contact with the casing bore. At a predetermined force, a calibrated weak point shears and the setting process ceases. A collapsible setting collet located in the bottom swage retracts and allows the pressure setting tool and setting equipment to be retrieved. The damaged interval is now isolated by a full circle, metal to metal seal.

OWEN highly recommends the use of a casing scraper before patch installation to rid the interval of foreign matter. A gauge ring or drift run is a minimum requirement. Also recommended is the use of a casing caliper to provide an accurate record of casing I.D. and condition.



APPLICATIONS INCLUDE:

Casing & Tubing Repair

Gas or Water Zonal Isolation

Hanger Systems

Big Bore Packers

Bridge Plugs

Extended Straddle Liners

Frac Thru

Velocity String

X-SPAN® SYSTEMS

Tubing/Casing Patch Technologies

PROVIDING THE INDUSTRY WITH THE FIRST EFFECTIVE GAS TIGHT PATCH,

The Owen X-SPAN® System provides a durable and dependable seal over perforations, splits, corrosions or leaks in all types of tubulars. This system can be deployed in horizontal, monobore, multi-lateral, slim hole or geothermal well bores.

The Owen X-SPAN® System has proven to be an economical and reliable solution for water shut-off or zonal isolation applications. The large bore assures easy passage of service tools including bridge plugs, seal bore assemblies, logging tools and perforating systems. The minimal surface equipment required for deploying the patch results in tremendous savings for the operator.

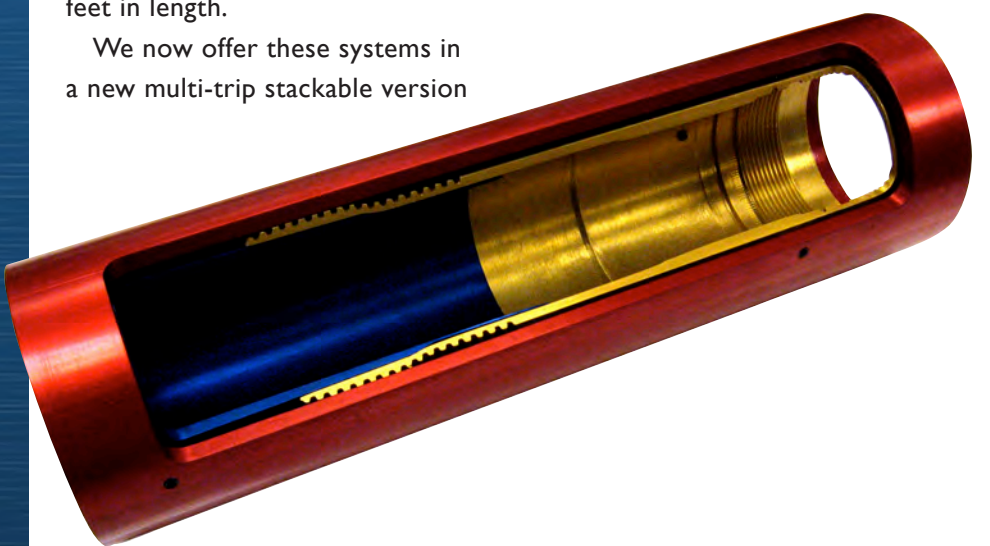
The multi-dimensional metal-to-metal X-SPAN® seal is engineered for high temperature applications while yielding the highest burst and collapse pressure ratings in the industry. The X-SPAN® casing patch is a one trip system that can save valuable time and money and can be deployed up to 300 feet in length.

We now offer these systems in a new multi-trip stackable version that can be utilized in extremely long straddle situations and a variety of extended patch requirements. Well interventions may be performed on flowing or static wells.

Our latest development, the GTX-SPAN®, has enabled us to provide the industry with the first effective gas tight patch. This system as well as our current X-SPAN® System can be designed using premium alloys for extreme well bore environments and custom sized for most tubing restrictions.

All Owen X-SPAN® Systems are easily deployed using a range of multi-stage explosive or hydraulic setting tools.

The explosive setting tools can be initiated electrically, on e-line or slick line using a variety of compatible firing systems. For your conventional deployment needs, we have several sizes of hydraulic setting tools available for coil tubing or tubing deployment.



OWEN OIL TOOLS X-SPAN® SYSTEMS FOR PRODUCTION ENHANCEMENT AND REMEDIAL WELLBORE REPAIR AND ZONAL ISOLATION

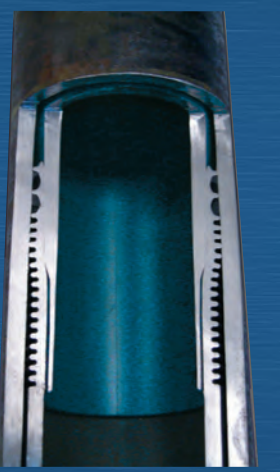
Our latest development, GTX-SPAN® provides the industry with the first effective, reliable and economical gas tight patch.

- *Durable and dependable seal over perforations, splits, corrosions or leaks in all types of tubulars*
- *Economical and reliable solution forwater shut-off / zonal isolation*
- *Large bore assures easy passage of service tools*
- *Minimal surface equipment and one trip system results in savings*
- *Well interventions may be performed on flowing or static wells*
- *Easily deployed using a range of multistage explosive or hydraulic setting tools*

GTX-SPAN® SYSTEMS

Tubing/Casing Patch Technologies

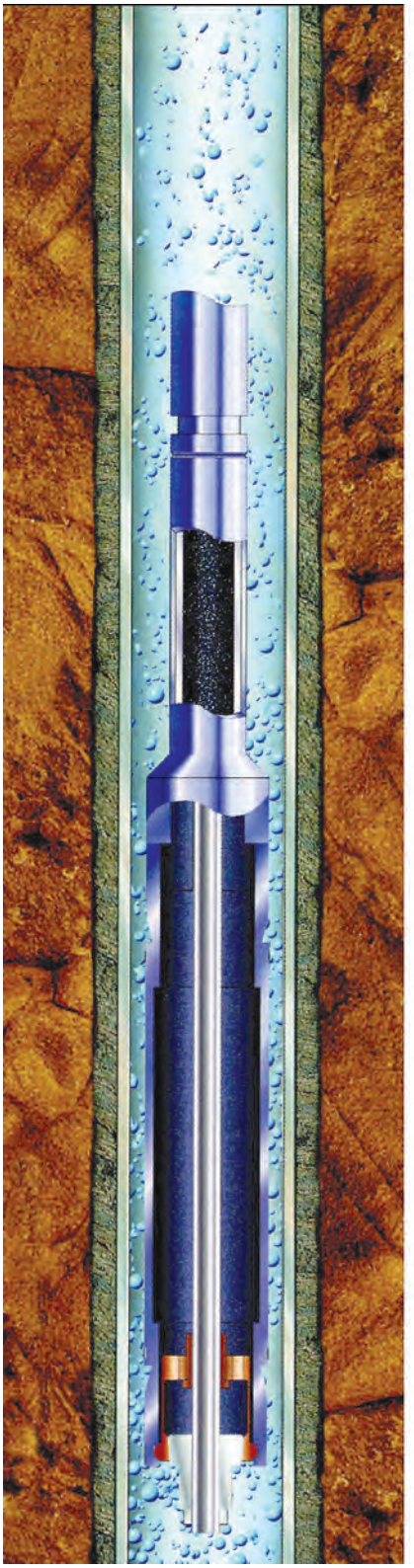
Cutaway of our new GTX-SPAN® set in 4-1/2" 12.6# casing



Production Enhancement

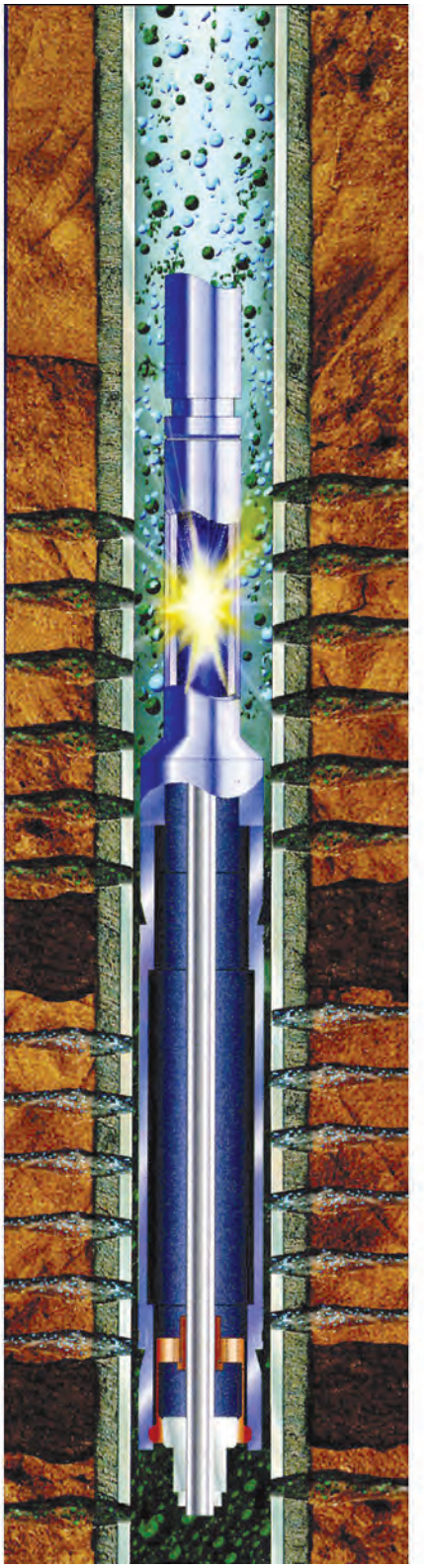
Core Lab
RESERVOIR OPTIMIZATION

X-SPAN® SYSTEM RUNNING PROCEDURES



RUNNING IN THE HOLE

The Owen Casing/Tubing Patch can be conveyed on Electric Line, Slick Line, Tubing, Drillpipe or Coil Tubing.

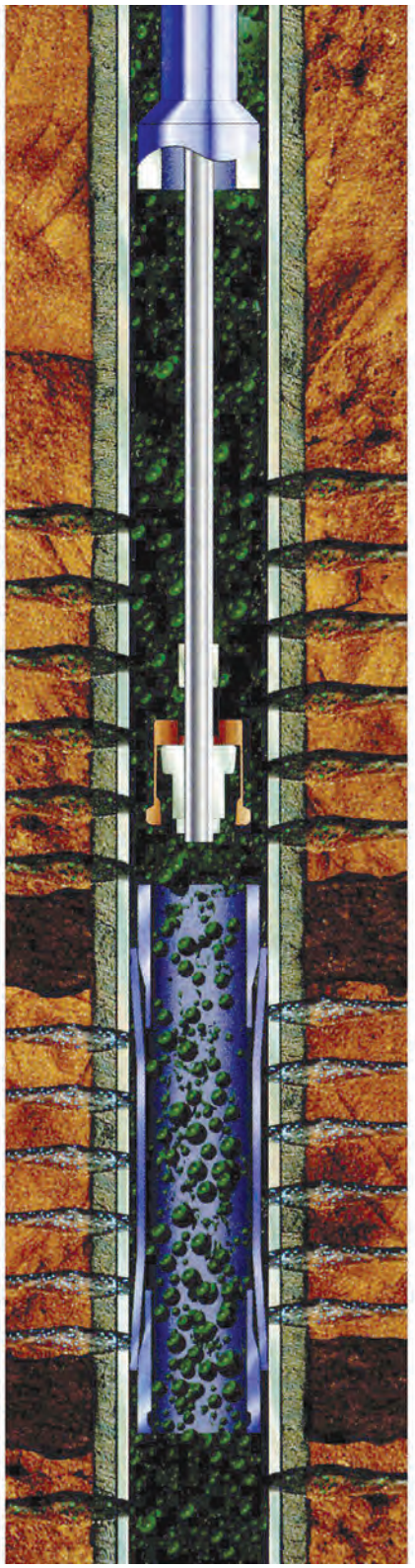


SETTING THE PATCH

Once on depth, the power charge and the setting tool is triggered (as is pictured). The power charge generates gas pressure on multiple pistons driving the connecting rod upward against the setting sleeve, forcing the swages to expand the X-SPAN® seal against the inside wall of the casing or tubing. (Hydraulic setting tools are also available).

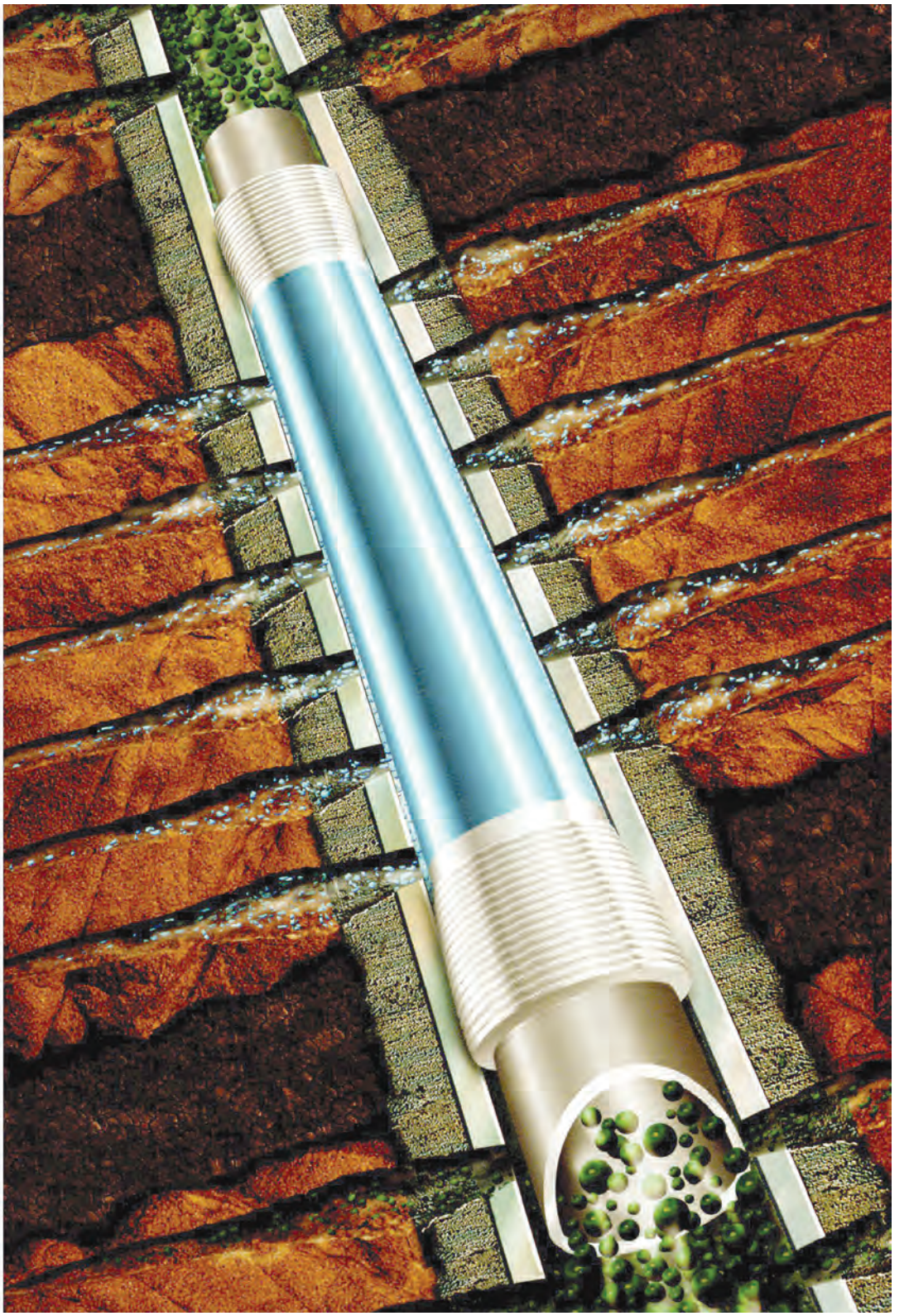
SHEARING THE COLLET

The Patch is set once the X-SPAN® seal is fully engaged against the wall of the casing or tubing. Continued upward force on the connecting rod shears the collet assembly (located in the bottom swage) releasing the setting tool assembly from the Patch.



PULLING OUT OF THE HOLE

Once the collet section is disengaged, the setting tool assembly is pulled to surface and the X-SPAN® Patch is secured in place.



PATCH IN POSITION

Once the Casing Patch is securely positioned, well optimization is assured.

X-SPAN® SYSTEMS

Tubing/Casing Patch Technologies

STACKABLE X-SPAN® SYSTEMS TECHNOLOGY FOR EASILY DEPLOYED LONG ISOLATION REQUIREMENTS

Our stackable X-SPAN® products allow for long straddle systems to be deployed in multiple runs.

The stackable system utilizes our X-SPAN® technology to isolate the top and bottom of the intended zone.

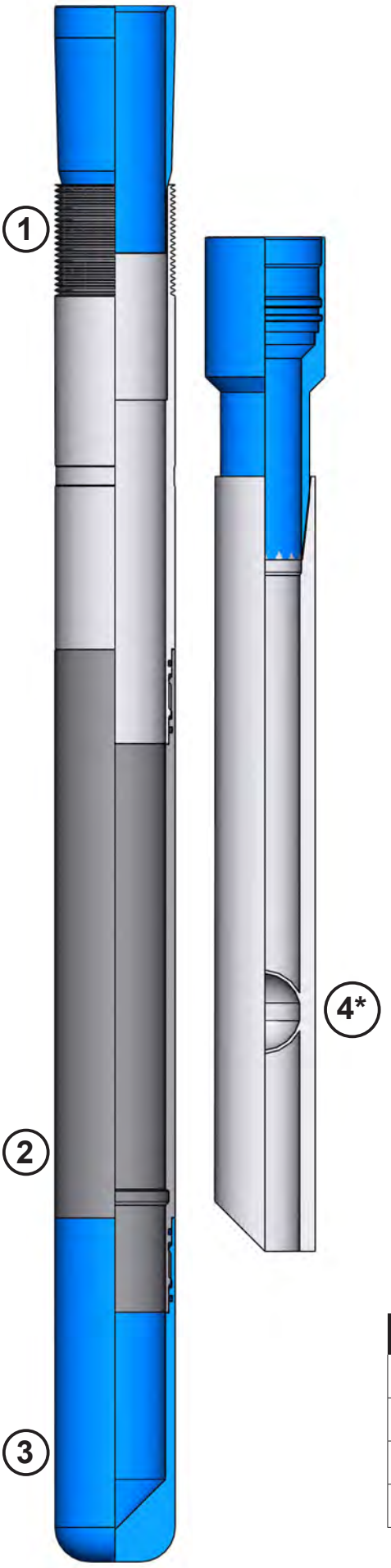
Other benefits include:

- *Rated for high pressure gas or fluid*
- *Designed primarily for zonal isolation or water shut off, sand screen deployment, gravel pack and gas lift*
- *Available in all standard sizes and weights*

Core Lab
RESERVOIR OPTIMIZATION

Production Enhancement

BPX-SPAN® Bridge Plug



Owen's elastomer-free BPX-SPAN® Bridge Plug uses Owen's patented and proven metal-to-metal seal technology to create a mechanical seal and anchor to the casing wall. The BPX-SPAN® Bridge Plug is a great solution for wells with hostile well conditions that can cause the elastomers to swell on standard Bridge Plugs while they are being run in the hole. Elastomer swell on standard Bridge Plugs can cause the operator to get stuck or make it impossible for the plug to pass through restrictions and seating nipples and in some cases it might not be possible to get the plug back out of the hole. The proven metal-to-metal sealing element technology from our standard X-SPAN® Tubing/Casing Patch System was used to design a Bridge Plug that does not require elastomers to create the seal to the casing wall. The Bridge Plug utilizes our standard top element and swage, a profile sub and a bull plug. Standard Owen setting equipment is used to run and set it.

OPTIONAL EQUIPMENT

- Ceramic Knock-Out Sub, Pump-Out Sub or Burst Disc
- Tailpipe assembly with Profile Subs
- Velocity string

FEATURES and BENEFITS

- Elastomer-free system
- Proven seal technology
- Sets in any grade casing, including P-110
- Short design for quick removal
- No moving parts, slips, shear screws, set screws… that can result in failure during run-in and setting.
- Can be converted to knock-out plug with Ceramic disc sub
- For temporary or permanent service
- Available in a variety of materials
- Rated for >550F

ITEM	DESCRIPTION
1	Metal-to-Metal Sealing Element
2	Profile Sub
3	End Cap
4*	Optional Ceramic Knock-Out sub

X-SPAN® SPECIAL PRODUCTS

STACKABLE SYSTEM

Our stackable X-SPAN™ products allow for long straddle systems to be deployed in multiple runs using wire-line, coil tubing or conventional tubing. The stackable system can utilize X-SPAN® or GTX-SPAN® to isolate the top and bottom of the intended zone, while specially engineered seal assemblies are utilized between each sequential intermediate section. This technology allows for extremely long isolation systems to be deployed when lubricator length or well accessibility is an issue.

The Stackable X-SPAN® System has proven to be a valuable solution in Southeast Asia on wells with sensitive formations, which preclude killing the well prior to running a patch. Wireline deployment is necessary, and the isolation intervals are very lengthy, requiring a lubricator and multiple runs.

Because isolation intervals can be several hundred or thousands of feet, this system has the versatility to allow the employment of a casing, tubing, or drill pipe string in place of the extension sections. The bottom X-SPAN® element and polished bore receptacle (PBR) can be set by either wireline or tubing deployment methods, followed by the casing, tubing, or drill pipe string interval isolation (straddle) section. The interval isolation section would have the PBR stinger attached to the bottom with a second PBR on the top. Once the interval isolation section is in place, the top X-SPAN® element equipped with the PBR stinger, is deployed, latched into place, then set with standard X-SPAN® setting equipment. This versatility, offers an economic choice for operators, in that they can use their own pipe for the interval isolation section.

Because standard extension sections are relatively inflexible, the solution above is ideal for wells with extreme dog-leg deviations, where long tool strings will not pass.

This method of isolation also provides an efficient solution for later removal of the patch. To remove this system, the top swage and element are milled over and fished out of the hole. The interval isolation section is then "speared" and jarred out of the bottom PBR and retrieved from the well. The bottom element can then be milled over and removed.

MONOFIT ISOLATION PATCH

The Owen X-SPAN® MonoFIT Tubing/Casing Patch features a single unit construction, absent of connections between the elements and the extension section. This uni-body construction eliminates possible leak paths created by threaded connections, and increases higher differential pressure ratings.

The lack of elastomer seals enables the system to withstand downhole temperatures of up to 700 degrees F. Components are manufactured from L-80 material, with the exception of the swages, which are heat treated. Swages and tubulars can be constructed of 13 Cr materials, if higher corrosion resistance is needed.

This system features a concentric ID from top to bottom and is available in lengths up to 20ft.

SUSPENSION SYSTEM

The suspension X-SPAN® incorporates a uniquely engineered surface on the exterior of the X-SPAN® that allows for extremely high hanging capacities. The large ID after setting is a big advantage when it comes to production restrictions and subsequent wellbore accessibility. Hanging liners or sand control screens are only two of the many possible applications. This system can be customized to fit an assortment of tools and is easily deployed with our conventional hydraulic or explosive setting equipment.

LINER ISOLATION TOOL (LITe)

The Owen X-SPAN® Liner Isolation Tool (LITe) provides a metal-to-metal liner top seal between the outer casing and the liner, and incorporates a polished tie back sleeve into the system, which can be used for a surface tie back at a later date. The tie back comes with industry standard ID's and standard lengths of 6 and 10 feet.

The lower seal assembly is a one-piece mandrel with two seal stacks. The standard seal material is Nitrile, Viton, Aflas or any other seal material can be provided to meet customer needs. Immediately above the seals is a No-Go to prevent the tool from being run beyond the tie back sleeve.

The tool is hydraulically set using standard Owen hydraulic setting tools. Very cost effective verses packer technology

LINER-IN-A-LINER

Owens X-SPAN® System is an economical solution of running in a smaller liner into the existing liner and tie back system. The element is set and seals in the casing above the liner.

BIG BORE PACKER

The Owen Big Bore Packer system incorporates a honed seal bore I.D. that can be made in custom lengths. The Owen BBP gives is a uni-body tool with the largest bore in the industry. Large tubing and downhole tools and equipment pass easily through the large bore. Can be customized to include a latch or locking mechanism for seal assemblies.

X-SPAN® System Specifications

API Tubing/Casing Dimensions				Patch Dimensions		Patch Pressure Ratings		Patch Short Assy.	Patch 10 ft. Extension	Material Type	Ext. Wall	Setting Tool Options Size & Type
Casing	Weight	Nominal	Drift	Patch O.D.	Patch I.D.	Burst psi	Collapse psi	Part Number			in	
OD in	(T&C) LB/FT	ID in	Drift in	in	in							
OD mm	*(T&C) Kg/M*	*I.D. mm*	*Drift mm*	*mm*	*mm*	*Burst Mpa*	*Collapse Mpa*				*mm*	
2-3/8 *60.3*	4.6-4.7 *6.86-7.00*	1.995 *50.7*	1.901 *48.3*	1.812 *46.0*	1.437 *36.5*	6580 *45.37*	6740 *46.47*	PAT-2375-001	PAT-2375-027	Mild Steel	0.1875 *4.76*	1-11/16 MSST
2-7/8 *73.0*	6.4-6.5 *9.52-9.67*	2.441 *62.0*	2.347 *59.6*	2.270 *57.7*	1.875 *47.6*	8000 *55.16*	8000 *55.16*	PAT-2875-003	PAT-2875-047	L-80	0.1875 *4.76*	2-1/8 MSST or 2-1/8 Hydraulic
3-1/2 *88.9*	9.2-9.3 *13.69-13.84*	2.992 *76.0*	2.867 *72.8*	2.812 *71.4*	2.375 *60.3*	6180 *42.61*	6510 *44.88*	PAT-3500-002	PAT-3500-037	Mild Steel	0.1875 *4.76*	
4 *88.9*	9.4-9.5 *13.98-14.14*	3.548 *90.1*	3.500 *88.9*	3.430 *87.1*	2.992 *76.0*	5000 *34.47*	5500 *37.92*	PAT-4000-0094-3001	PAT-4000-0094-3010	13 Cr	0.226 *5.740*	2-1/8 2 11/16
4-1/2 *114.3*	17.7 *22.16*	3.696 *93.9*	3.515 *89.3*	3.485 *88.5*	2.930 *92.5*	10000 *68.95*	10000 *68.95*	PAT-4500-0177-3001	PAT-4500-0189-3010	13 Cr	0.278 *7.061*	3-1/4 MSST or 3 1/8 Hydraulic
	18.9 *28.12*	3.640 *92.5*	3.515 *89.9*	3.485 *88.5*	2.930 *74.4*	10000 *68.95*	10000 *68.95*	PAT-4500-0189-3001	PAT-4500-0189-3010			
	15.1 *22.47*	3.826 *97.2*	3.701 *94.0*	3.600 *91.4*	2.992 *76.0*	9000 *62.05*	9000 *62.05*	PAT-4500-0151-1001	GTX-4500-110	L-80	0.254 *6.452*	3-1/4 MSST
	13.5 *20.09*	3.920 *99.6*	3.795 *96.4*	3.776 *95.9*	3.375 *85.7*	7500 *51.71*	5700 *39.30*	PAT-4500-0135-1001	PAT-4500-0135-1010		0.1875 *4.76*	
	11.6-12.6 *17.26-18.75*	4.00-3.958 *101.6-100.5*	3.875-3.833 *98.4-97.36*	3.800 *96.5*	3.375 *85.7*	8000 *55.16*	6600 *45.51*	PAT-4500-0126-1001				
	9.5-10.5 *14.14-15.63*	4.09-4.052 *103.9-102.9*	3.965-3.927 *100.7-99.8*	3.875 *98.4*	3.375 *85.7*	5130 *35.37*	4990 *34.4*	PAT-4500-003	PAT-4500-037	Mild Steel		3-1/4 MSST or 3 1/8 Hydraulic
5 *127*	18 *26.78*	4.276 *108.6*	4.151 *105.4*	4.080 *103.6*	3.500 *88.9*	5650 *38.96*	6000 *41.37*	PAT-5000-001	PAT-5000-037	Mild Steel	0.25 *6.35*	3-1/4 MSST or 3 1/8 Hydraulic
	15 *22.32*	4.408 *112.0*	4.283 *108.8*	4.188 *106.4*	3.500 *88.9*	6530 *45.02*	6390 *44.06*	PAT-5000-002				
5-1/2 *139.7*	23 *34.22*	4.670 *118.6*	4.545 *115.4*	4.515 *114.7*	4.000 *101.6*	4530 *31.23*	4880 *33.65*	PAT-5500-001	PAT-5000-037	Mild Steel	0.25 *6.35*	3-1/4 MSST or 3 1/8 Hydraulic
	20 *29.76*	4.778 *121.4*	4.653 *118.2*	4.600 *116.8*	4.000 *101.600*	5180 *35.71*	5540 *38.20*	PAT-5500-002				
	17 *25.30*	4.892 *124.3*	4.767 *121.1*	4.700 *119.4*	4.000 *101.6*	5920 *40.82*	5690 *39.23*	PAT-5500-003				
	14-15.5 *20.83-23.07*	5.01-4.95 *127.3-125.7*	4.887-4.825 *124.1-122.6*	4.790 *121.7*	4.250 *108.0*	4480 *30.89*	4830 *33.30*	PAT-5500-004	PAT-5500-057			
7 *177.8*	35 *52.09*	6.004 *152.5*	5.879 *149.3*	5.850 *148.6*	5.250 *133.4*	4070 *28.06*	3470 *23.92*	PAT-7000-001	PAT-7000-027	Mild Steel	0.25 *6.35*	3-1/4 MSST or 3 1/8 Hydraulic
	32 *47.62*	6.094 *154.8*	5.969 *151.6*	5.930 *150.6*	5.250 *133.4*	4560 *31.44*	3470 *23.92*	PAT-7000-002				
	29 *43.16*	6.184 *157.1*	6.059 *153.9*	6.028 *153.1*	5.500 *139.7*	3480 *23.99*	3180 *21.93*	PAT-7000-003	PAT-7000-047			3-1/4 MSST or 3-1/8 Hydraulic or 4-3/4 Hydraulic
	26 *38.69*	6.276 *159.4*	6.151 *156.2*	6.110 *155.2*	5.500 *139.7*	3970 *27.37*	3180 *21.93*	PAT-7000-004				
	23 *34.23*	6.366 *161.7*	6.241 *158.5*	6.160 *156.5*	5.500 *139.7*	4260 *29.37*	3180 *21.93*	PAT-7000-005				
	20 *29.76*	6.456 *164.0*	6.331 *160.8*	6.281 *159.5*	5.750 *146.1*	3360 *23.17*	2920 *20.13*	PAT-7000-006	PAT-7000-087			
	17 *25.30*	6.538 *166.1*	6.413 *162.9*	6.355 *161.4*	5.750 *146.1*	3780 *26.06*	2920 *20.13*	PAT-7000-007				
9-5/8 *244.5*	47 *69.94*	8.681 *220.5*	8.525 *216.5*	8.500 *215.9*	7.750 *196.9*	6200 *42.75*	4400 *30.34*	PAT-9625-0470-1001	PAT-9625-0470-1010	L-80	0.25 *6.35*	4-1/2 MSST
	43.5 *64.73*	8.775 *222.9*	8.599 *218.4*	8.500 *215.9*	7.750 *196.9*	6200 *42.75*	4400 *30.34*	PAT-9625-0435-1001				

Extended working pressure of Casing Patch should not exceed 80% of pressure rating. / Pressure ratings are based on API formula for casing material.

GTX-SPAN® System Specifications

API Tubing/Casing Dimensions				Patch Dimensions		Patch Pressure Ratings				Patch Short Assy.	Patch 10 ft. Extension	Material Type	Ext. Wall Thickness	Setting Tool Options Size & Type
Casing	Weight	Nominal	Drift	Patch O.D.	Patch I.D.	Hydraulic		Gas		Part Number			in	
OD in	(T&C) LB/FT	ID in	Drift in	in	in	Burst psi	Collapse psi	Burst psi	Collapse psi					
OD mm	*(T&C) Kg/M*	*I.D. mm*	*Drift mm*	*mm*	*mm*	*Burst Mpa*	*Collapse Mpa*	*Burst Mpa*	*Collapse Mpa*				*mm*	
2-7/8 *73*	7.7-7.9 *11.46-11.75*	2.323 *59.0*	2.229 *56.6*	2.199 *55.9*	1.500 *38.1*	9000 *62.05*	9000 *62.05*	9000 *62.05*	9000 *62.05*	GTX-2875-002	GTX-2875-0079-1010	L-80	0.3125 *7.938*	2-1/8 MSST *or* 2-1/8 HST *or* 3-1/8 HST
	6.4-6.5 *9.52-9.67*	2.441 *62.0*	2.347 *59.6*	2.280 *57.9*	1.875 *47.6*	9000 *62.05*	9000 *62.01*	8000 *55.12*	8000 *55.16*	GTX-2875-0065-1000	PAT-2875-047		0.1875 *4.763*	
3-1/2 *88.9*	12.7-12.95 *18.90-19.27*	2.750 *69.8*	2.625 *66.7*	2.580 *65.5*	1.970 *50.0*	9500 *65.50*	9500 *65.50*	9500 *65.50*	9500 *65.50*	GTX-3500-001	GTX-3500-110	L-80	0.325 *8.255*	2-1/8 MSST *or* 2-1/8 HST *or* 3-1/8 HST
	9.2-9.3 *13.69-13.84*	2.992 *76.0*	2.867 *72.8*	2.775 *70.5*	2.259 *57.4*	8500 *58.61*	9500 *65.50*	7000 *48.26*	8000 *55.16*	GTX-3500-0093-1001	GTX-3500-0093-1010		0.258 *6.553*	
4-1/2 *114.3*	16.9 *25.15*	3.740 *95.0*	3.629 *92.2*	3.560 *90.4*	2.750 *69.9*	9000 *62.05*	9000 *62.05*	9000 *62.05*	9000 *62.05*	GTX-4500-0169-1001	GTX-4500-0169-1010	13 Cr	0.375 *9.525*	2-1/8 MSST *or* 2-1/8 HST *or* 3-1/8 HST
	15.1 *22.47*	3.826 *97.2*	3.700 *94.0*	3.600 *91.4*	2.992 *76.0*	6300 *43.44*	6500 *44.82*	6300 *43.44*	6500 *44.82*	GTX-4500-002	GTX-4500-110	L-80	0.254 *6.452*	
	13.5 *20.09*	3.920 *99.6*	3.795 *96.4*	3.718 *94.4*	2.992 *76.0*	7500 *51.71*	8500 *58.61*	7000 *48.26*	7500 *51.71*	GTX-4500-0135-1001		13 Cr	0.254 *6.452*	
	11.6-12.6 *17.36-18.75*	4.000-3.958 *101.6-100.5*	3.875 *98.4*	3.800 *96.5*	2.992 *76.0*	7800 *53.78*	7800 *53.78*	7800 *53.78*	7800 *53.78*	GTX-4500-0126-1001		L-80	0.254 *6.452*	
5 *127*	18 *26.78*	4.276 *108.6*	4.151 *105.4*	3.875 *98.4*	3.125 *79.4*	8500 *58.61*	8500 *58.61*	7500 *51.71*	7500 *51.71*	GTX-5000-0180-1001	SPC-4500-037	L-80	0.297 *7.544*	2-1/8 MSST *or* 2-1/8 HST *or* 3-1/8 HST
5-1/2 *139.7*	23 *34.22*	4.670 *118.6*	4.545 *115.4*	4.515 *114.7*	3.920 *99.6*	5640 *38.89*	6125 *42.23*	5640 *38.89*	6125 *42.23*	GTX-5500-0230-1001	GTX-5500-0155-1010	L-80	0.29 *7.366*	2-1/8 MSST *or* 2-1/8 HST *or* 3-1/8 HST
	20 *29.76*	4.778 *121.4*	4.653 *118.2*	4.600 *116.8*	4.000 *101.6*	7000 *48.26*	7000 *48.26*	7000 *48.26*	7000 *48.26*	GTX-5500-0200-3001	GTX-5500-0155-3010	13 Cr	0.29 *7.366*	
	17 *25.30*	4.892 *124.3*	4.767 *121.1*	4.737 *120.3*	3.920 *99.6*	7300 *50.33*	7500 *51.71*	6500 *44.82*	6000 *41.37*	GTX-5500-0170-1001	GTX-5500-0155-1010	L-80	0.29 *7.366*	
	15.5 *23.07*	4.950 *125.7*	4.825 *122.6*	4.790 *121.7*	3.920 *99.6*	5220 *35.99*	5800 *39.99*	5220 *35.99*	5800 *39.99*	GTX-5500-0155-1001			0.29 *7.366*	
7 *177.8*	32 *47.62*	6.094 *154.8*	5.969 *151.6*	5.870 *149.1*	4.892 *124.3*	7000 *48.26*	7000 *48.26*	5000 *34.47*	5000 *34.47*	GTX-7000-0320-1001	GTX-7000-0322-1010	L-80	0.304 *7.722*	2-1/8 MSST *or* 2-1/8 HST *or* 3-1/8 HST
	29 *43.16*	6.184 *157.1*	6.059 *153.9*	6.028 *153.1*	5.352 *135.9*	5600 *38.61*	6300 *43.44*	5600 *38.61*	6300 *43.44*	GTX-7000-0290-1001	GTX-7000-0290-1010	L-80 or N-80	0.324 *8.230*	3-1/4 MSST *or* 3-1/8 HST *4-3/4 HST*
	23 *34.23*	6.366 *161.7*	6.241 *158.5*	6.160 *156.5*	5.352 *135.9*	6400 *44.13*	6000 *41.37*	5600 *38.61*	5600 *38.61*	GTX-7000-0230-1001			0.324 *8.230*	
7-5/8 *193.7*	33.7 *50.15*	6.765 *171.8*	6.640 *168.7*	6.580 *167.1*	6.000 *152.4*	5000 *34.47*	5300 *36.54*	5000 *34.47*	5300 *36.54*	GTX-7625-0337-1001	GTX-7000-0290-1010	L-80 or N-80	0.324 *8.230*	3-1/4 MSST *or* 3-1/8 HST *4-3/4 HST*
9-5/8 *244.5*	53.5 *79.62*	8.535 *216.8*	8.379 *212.8*	8.300 *210.8*	6.630 *168.4*	7000 *48.36*	7000 *48.26*	5000 *34.47*	5000 *34.47*	GTX-9625-0535-1001	GTX-9625-0535-1010	L-80	0.5 *12.700*	3-1/4 MSST *or* 3-1/8 HST *4-3/4 HST*

MonoFIT System Specifications

API Tubing/Casing Dimensions				Patch Dimensions		Patch Pressure Ratings		Monofit 20' Section	Monofit 15' Section	Monofit 13' Section	Monofit 10' Section	Material Type	Ext. Wall Thickness	Setting Tool Options Size & Type
Casing	Weight	Nominal	Drift	Patch O.D.	Patch I.D.	Burst psi	Collapse psi	Part Number					in	
OD in	(T&C) LB/FT	ID in	Drift in	in	in									
OD mm	*(T&C) Kg/M*	*I.D. mm*	*Drift mm*	*mm*	*mm*	*Burst Mpa*	*Collapse Mpa*						*mm*	
2-7/8 *73*	6.4-6.5 *9.54-9.69*	2.441 *62.0*	2.347 *59.6*	2.250 *57.2*	1.875 *47.6*	9000 *62.05*	9000 *62.05*	PAT-2875-020CPL	PAT-2875-015CPL	PAT-2875-013CPL	PAT-2875-010CPL	L-80	0.1875 *4.763*	2-1/8 MSST
3-1/2 *88.9*	9.2-9.3 *13.69-13.84*	2.992 *76.0*	2.867 *72.8*	2.750 *69.9*	2.259 *57.4*	10000 *68.95*	10000 *68.95*	PAT-3500-020CPL	PAT-3500-015CPL	PAT-3500-013CPL	PAT-3500-010CPL	L-80	0.220 *5.588*	2-11/16 MSST
5-1/2 *139.7*	17 *25.35*	4.892 *124.3*	4.767 *121.1*	4.737 *120.3*	4.250 *108.0*	10000 *68.95*	5500 *37.92*	MFP-5500-0170-1200	MFP-5500-0170-1150	MFP-5500-0170-1130	MFP-5500-0170-1100	L-80	0.1925 *4.890*	3-1/4 MSST

Extended working pressure of Casing Patch should not exceed 80% of pressure rating. / Pressure ratings are based on API formula for casing material.

STX-SPAN® Specifications

API Tubing/Casing Dimensions				Patch Dimensions		Patch Pressure Ratings		Lower Anchor Assy.	Std. Stinger Section	Top Stinger Section	Top Completion Section	Linear Deployment or Deployment/ Retrieval Tool	Material Type	Setting Tool Options Size & Type
Casing	Weight	Nominal	Drift	Patch O.D.	Patch I.D.									
OD in	(T&C) LB/FT	ID in	Drift in	in	in	Burst psi	Collapse psi	Part Number						
OD mm	*(T&C) Kg/M*	*I.D. mm*	*Drift mm*	*mm*	*mm*	*Burst Mpa*	*Collapse Mpa*							
2-7/8 *73.0*	6.4-6.5 *9.52-9.67*	2.441 *62.0*	2.347 *59.6*	2.28 *57.9*	1.8 *45.7*	5400 *37.23*	5900 *40.68*	STX-2875-0065-2100	STX-2875-0065-2200	STX-2875-0065-2300	STX-2875-0065-2400	DRT-2875-0065-1001	Alloy & 13 Cr \ 304L	2-1/8 MSST
								STX-2875-0065-3100	STX-2875-0065-3200	STX-2875-0065-3300	STX-2875-0065-3400		13 Cr	
3-1/2 *88.9*	9.2-9.3 *13.69-13.84*	2.992 *76.0*	2.867 *72.8*	2.780 *70.6*	2.260 *57.4*	6000 *41.37*	5000 *34.47*	STX-3500-0093-2100	STX-3500-0093-2600	STX-3500-0093-2300	STX-3500-0093-2400	DRT-3500-0093-1001	L-80	
				2.716 *69.0*	2.200 *55.9*	3500 *24.13*	3500 *24.13*	STX-3500-0093-3100	STX-3500-0093-3600	STX-3500-0093-3300	STX-3500-0093-3400	DRT-3500-0093-2001	304L & 13 Cr	
4-1/2 *114.3*	13.5 *20.09*	3.920 *99.6*	3.795 *96.4*	3.718 *94.4*	2.992 *76.0*	5000 *34.47*	5000 *34.47*	STX-4500-0135-2100	STX-4500-0135-2600	STX-4500-0135-2300	STX-4500-0135-2400	DRT-4500-0135-1001	L-80	3-1/4 MSST or 3-1/8 HST
	11.6 *17.26-18.75*	4.000 *101.6-100.5*	3.875 *98.4*	3.8 *96.5*	2.992 *76.0*	5000 *34.47*	5000 *34.47*	STX-4500-0126-1100	STX-4500-0126-1600	STX-4500-0126-1300	STX-4500-0126-1400			
5-1/2 *139.7*	23 *34.22*	4.670 *118.6*	4.543 *115.4*	4.500 *114.3*	3.750 *95.3*	5000 *34.47*	5000 *34.47*	STX-5500-0230-3100	STX-5500-0230-3600	STX-5500-0230-3300	STX-5500-0230-3400	DRT-5500-0230-1001	13 Cr	
	20 *29.76*	4.778 *121.4*	4.653 *118.2*	4.500 *114.3*	3.750 *95.3*	5000 *34.47*	5000 *34.47*	STX-5500-0200-3100	STX-5500-0230-3600	STX-5500-0230-3300	STX-5500-0200-3400			

Special Clearance Specifications

API Tubing/Casing Dimensions				System Type	Patch Dimensions		Patch Pressure Ratings				Patch Short Assy.	Patch 10 ft. Extension	Material Type	Ext. Wall Thickness	Setting Tool Options Size & Type
Casing	Weight	Nominal	Drift		Patch O.D.	Patch I.D.	Hydraulic		Gas						
OD in	(T&C) LB/FT	ID in	Drift in		in	in	Burst psi	Collapse psi	Burst psi	Collapse psi	Part Number			in	
OD mm	*(T&C) Kg/M*	*I.D. mm*	*Drift mm*		*mm*	*mm*	*Burst Mpa*	*Collapse Mpa*	*Burst Mpa*	*Collapse Mpa*				*mm*	
3-1/2 *88.9*	9.2-9.3 *13.69-13.84*	2.992 *76.0*	2.867 *72.8*	X-SPAN®	2.775 *70.485*	2.330 *59.182*	7500 *51.71*	7200 *49.64*	N/A		SPC-3500-004	SPC-3500-047	L-80	0.2225 *5.652*	2-11/16 MSST
	9.2-9.3 *13.72-13.68*	2.992 *75.999*	2.867 *72.824*		2.715 *68.961*	2.250 *57.150*	6500 *44.82*	6500 *44.82*			SPC-3500-0093-2001	SCP-3500-0093-2010	304L	0.225 *5.715*	
4-1/2 *114.3*	13.5 *20.09*	3.920 *99.6*	3.795 *96.4*	X-SPAN®	3.658 *92.913*	2.992 *75.997*	9000 *62.05*	9000 *62.05*	N/A		PAT-4500-0135-3001	GTX-4500-110	13Cr *L-80*	0.333 *8.458*	2-11/16 MSST
	11.6-12.6 *17.26-18.75*	4.000-3.958 *101.6-100.5*	3.833 *98.4*		3.600 *91.440*	2.992 *75.997*	8500 *58.61*	8000 *55.16*			SPC-4500-0126-3001		13Cr	0.333 *8.458*	3.25 *MSST* or 3-1/8 HST
	11.6-12.6 *17.26-18.75*	4.000-3.958 *101.6-100.5*	3.833 *98.4*		3.718 *94.437*	3.125 *79.375*	8500 *58.61*	8000 *55.16*			SPC-4500-005	SPC-4500-037	13Cr *304L*	0.2965 *7.531*	
	11.6-12.6 *17.26-18.75*	4.000-3.958 *101.6-100.5*	3.833 *98.4*	GTX-SPAN®	3.750 *95.250*	2.992 *75.997*	7200 *49..64*	7800 *53.78*	7000 *48.26*	7600 *52.40*	GTX-4500-0126-2001	GTX-4500-110	L-80	0.333 *8.458*	
5-1/2 *139.7*	20 *29.76*	4.778 *121.4*	4.653 *118.2*	X-SPAN®	4.500 *114.300*	3.920 *99.568*	7100 *48.95*	5300 *36.54*	N/A		SPC-5500-C02	SPC-5500-C37	13Cr *L-80*	0.29 *7.366*	3.25 *MSST* or 3-1/8 HST
	17 *25.30*	4.892 *124.3*	4.767 *121.1*	GTX-SPAN®	4.532 *115.113*	3.810 *96.774*	6000 *41.37*	7500 *51.71*	5500 *37.92*	6000 *41.37*	GTX-5500-0170-3001	GTX-5500-0155-3010	13Cr *L-80*	0.29 *7.366*	

Extended working pressure of Casing Patch should not exceed 80% of pressure rating. / Pressure ratings are based on API formula for casing material.

NOTES:

From our global network of Owen Oil Tools facilities, we provide perforating gun systems, pipe recovery systems and auxiliary equipment that can be conveyed into the well bore by any method available to provide our customers with solutions for their well intervention problems.

We do more than simply provide a commodity. We provide a "Best in Class" product line and back the product with unrivaled technical support and training where required. We also endeavor to assist our clients with choosing the Owen Oil Tools product that best fits their particular needs. This is a rarity in today's "one size fits all" marketplace.

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