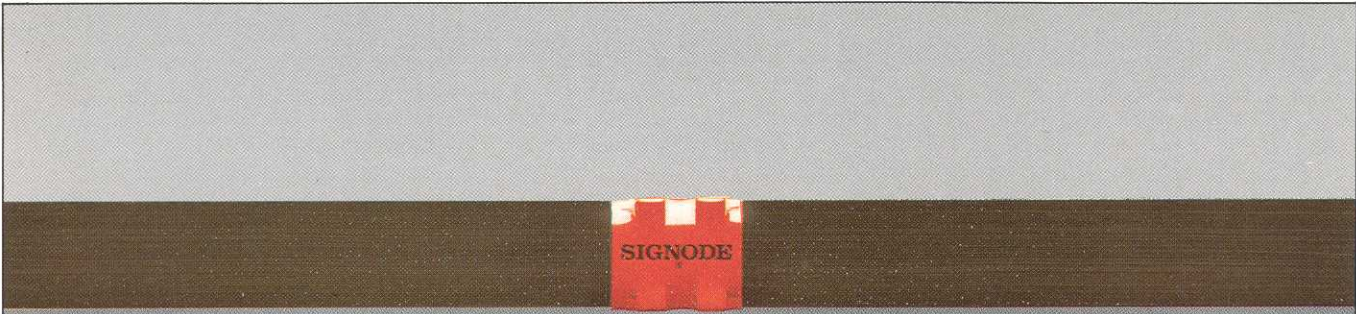
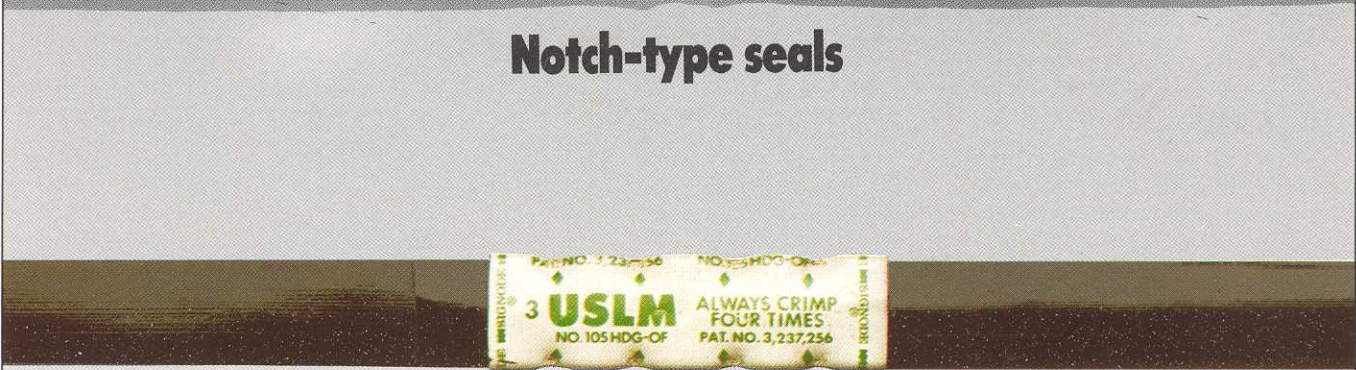


STRAP SEALING SYSTEMS

Manual and automatic steel and plastic strapping systems



Notch-type seals



Crimp-type seals



Sealless



Tensionweld[®]



Heatweld

SIGNODE SEALS FOR STEEL-STRAPPING

The system to safely secure the ends of steel strapping together after tensioning is of utmost importance for package security. Traditionally seals are the most widespread and flexible system used to secure steel strapping. Depending on strap size and application notch-type, or crimp-type seals are used.

For notch-type seals the seal and the strap are cut to form small tabs at the edges. The joints' strength is created by cutting the seal and strap and is particularly suited for use with waxed strapping. This is typically used in most applications to ensure good strap tension transmission around corners of products. Crimp type seals

are pressed together with the strap so that undulations are formed on the edges. As there is no cutting, so the strapping within the seal is not weakened. Adding crimped seal raises the joint strength even higher. Crimp seals are often sanded on the inner surface to give additional frictional resistance.

STANDARD SIGNODE SEALS

SNAP-ON SEALS



are placed over the overlapping strap ends either during or after tensioning the strapping. Their use generally speeds the strapping operation.

OPEN FLANGE SEALS



are the heavy-duty version of the snap-on models and, eliminate the pre-threading required for the thread-on type seals.



NESTACK SEALS

do away with a retaining wire and are held together by interlocking nibs. This SIGNODE development makes it possible to load partial tracks into a seal magazine.



PUSH-TYPE SEALS

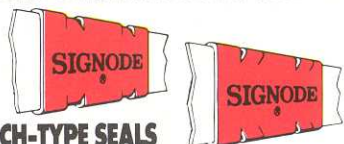
are used where strap tension is secured by butting the nose of the tensioner against the seal. The overlapping flanges provide the strength needed for a good joint-strength.



THREAD-ON SEALS

are pre-threaded over the overlapping strap ends before the tensioning tool is applied. Generally used on bales, bundles, or on narrow operating surfaces.

BASIC SIGNODE JOINT TYPES



NOTCH-TYPE SEALS

One way to seal the ends of strapping is to cut, or notch, the seal and the straps it joints to from little tabs at the edges. These tabs are bent down (regular notch) or bent up (reverse notch). Because the strength of this type comes primarily from the shearing of the metal rather than from frictional forces, it provides a secure joint on slippery waxed strapping.

CRIMP-TYPE SEALS



Another way to seal is to crimp the strap ends and their encircling seal, that is, to press undulations into them. Because there is no cutting, the strapping within the joint is not weakened. This joint, can then be built up by adding crimps, even to the extent of crimping a second seal, while maintaining the full strength of the

strapping. Under severe impacts, it yields slightly where the notch joint might break. Crimp-type joints are for applications such as carloading, where severe impacts may be encountered.

SIGNODE SPECIAL PURPOSE SEALS

INTERSECTION SEALS



Two of these seals, used in the manner shown here, keep cross-over straps at right angles, prevent side shift. Available for 19 mm and 31,75 mm strapping.

MICROGRIP SEALS

For severe-impact applications where waxed strapping is desirable, SIGNODE has developed the exclusive Microgrip seal. A special high-friction grit coated inside the seal „bites“ through the slippery waxed

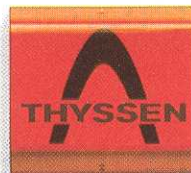
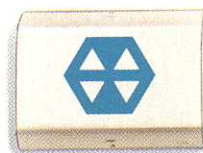
surface of the strapping, this gives high joint strength with two seals on even the most heavily waxed steel strapping.

SIGNATURE SEALS

A convenient way to identify your shipments, to display your trademark in full color on every package, and to discourage pilferage is to

use Signature seals lithographed with your trademark. Or, to speed handling, you can use these special purpose seals to code your products

by size, by type or by unit. SIGNODE offers a free design service for these seals. The seal then becomes an advertisement for your company.



SIGNODE SEALS FOR STEEL STRAPPING SYSTEMS

Strap width mm	Seal type	Model	Sealing Method	For use in tool or machine	Seal dimensions in mm		Seals per box
					Gauge	length	
9,5 (3/8")	38 C	SO	DN	C-3820	0,41	27,0	5.000
	38 SPC	P	SN	SRC-3820, PNSC-38	0,63	19,0	5.000
	38 AL	Nestack	DN	AL-38/ALP-38	0,41	21,9	8.400
	38 MNS	Nestack	DN	PSM: M-2/ M-25	0,46	17,3	12.000
	38 MNA	Nestack	SN	PSM: M-20	0,46	19,0	11.000
12,7 (1/2")	12 C	SO	DN	C-1223, YC-1223	0,41	28,5	5.000
	12 SPC	P	SN	SRC-1223, PNSC-12	0,63	22,0	5.000
	12 AL	Nestack	DN	AL-12, ALP-12	0,41	21,9	5.000
	12 AMP	Nestack	DN	AM, AMP, PSM: M-261	0,46	28,6	5.040
	12 SFC	Nestack	DN	SFC-1223	0,41	28,6	3.600
	12 MN-MNS	Nestack	DN	PSM: M-25	0,46	17,3	12.000
	12 MNA	Nestack	SN	PSM: M-20	0,63	19,0	9.000
16 (5/8")	58 C	SO	DN	C-5823, YC-5823, CN-5823	0,46	32,0	5.000
	58 SPC	P	SN	SRC-5823, PNSC-58	0,63	22,0	5.000
	58 AMP	Nestack	DN	AM-58, AMP-58, PSM: M-261	0,46	28,6	7.350
	58 SFC	Nestack	DN	SFC-5823	0,41	28,6	3.600
	58 MNS	Nestack	DN	PSM: M-2/ M-25	0,46	17,3	10.000
	58 PNSC	P	DN	PNSC-58	0,63	25,4	5.000
	58 MB	Nestack	DN	PSM: M-22	0,63	25,4	6.000
	58 MNA	Nestack	SN	PSM: M-20	0,63	19,0	8.000
19 (3/4")	34 C	SO	DN	C-3423, XC-3425, CN-3423	0,46	32,0	2.500
	34 SPC	P	SN	SRC-3423, PNSC-34	0,63	22,0	5.000
	34 PNSC	P	SN	PNSC-34	0,63	26,6	5.000
	34 MNT	Nestack	DN	PSM: M-361	0,80	38,1	2.400
	34 HCOF	OF	DN	SYC-3435, SYB-3435, SHC-3435, SYRC-3435, SURC-3435, SYC-3425, RCD-3435, RCN-3435, RCNS-3435	0,79	57,15	1.000
	34 HOC	P	DN	SHC-3435, SURC-3435, SYC-3435, SYC-3425, RCN-3435, RCDC-3435, SYRC-3435, RCD-3435, RCNS-3435, PRH-34, PRH-IT, SYB-3435	0,90	57,15	1.500
	34 SHOC	P	SN	SYC-3425, SYC-3425, SYRC-3435, SHC-3435, SURC-3435, RCNS-3435	0,90	34,9	2.500
	34 AMP	Nestack	DN	AMP, AM, PSM: M-261	0,52	28,6	7.000
	34 AHP	Nestack	DN	AHP, PSM: M-36, AH-34	0,80	38,1	4.000
	34 SFC	Nestack	DN	SFC-3423	0,41	28,6	3.000
34 AHPG	Nestack	DN	AH-34, AHP, PSM: M-361	0,80	38,1	2.400	
34 MNK	Nestack	SN	PSM: M-20, MH-34	0,79	19,0	6.000	
34 MB	Nestack	DN	PSM: M-22	0,80	25,4	4.200	
34 AMPH	Nestack	DN	AMP, PSM: M-261	0,63	28,6	6.000	
25,4 (1")	032 OF	OF	DN	C-100, RC-100, RCD-100, RCDC-100, RCNS-100	0,80	53,0	1.000
	100 P	P	DN	PRH-100, PRH-IT-100, C-100, RC-100, RCD-100, RCNS-100	0,89	57,1	1.000
	100 A	Nestack	DN	AH-100, AHP-2-100, AHP-2A-100	0,80	38,1	2.520
	100 M	Nestack	DN	PSM: M-40, M-400	1,07	50,8	1.200
31,75 (1 1/4")	104 DG	TO	DC (2x)	B-1435, LO-1435, UB-1435-50, N-1435, N-1435 L, NSP-1435, B-1450	0,80	121,0	1.000
	107 DG	TO	DC	B-1435, B-1450, UB-1435-50, NSP-1435, N-1435	0,90	76,0	700
	0107 OF	OF	DC	B-1435, LO-1450, UB-1435-50, NSP-1435, N-1435	0,80	58,0	1.000
	114 SP	P	SN	C-1435, C-1450, UC-1435, UTC-1435, RC-1435-50, RCNS-1-1435	0,90	40,0	1.500
	114 P	P	DN DC	UC-1435, UTC-1435, LO-1435 C-1435, PRH-114, C1450, PRH-IT, RCD-1435, RC-1435-50, RCNS-1-1435, RCN-1435, B-1435, RCDC-1435	0,90	57,0	1.000
	114 OF	OF	DN DC	UC-1435, UTC-1435, LO-1435 C-1435, C-1450, RC-1435-50, RCD-1435, B-1450, B-1435, RCNS-1435, RCN-1435, UB-1435-50	0,80	57,0	1.000
	114 A	Nestack	DN	AH-114, AHP-2-114, AHP-2A-114	0,89	38,0	1.960
	114 M	Nestack	DN	PSM: M-40, M-400	1,10	50,8	1.000
31,75 (1 1/4") USLM	107-DG-OF	OF	DC	UF-1435-50, NSP-1435, N-1435 N-1444-50 LSH, N-1452-57 LSH	0,90	76,0	500
	117 HDG-OF	OF	DC		1,07	74,0	500
	117 HDG-TO	TO	DC		1,07	74,0	500
	105 HDG-TO	TO	DC (2x)		1,07	121,0	500
	105 HDG-OF	OF	DC (2x)		1,07	121,0	500

DN = double notch, SN = single notch, DC = double crimp, PSM = power strapping machine

SIGNODE SEALS FOR PLASTIC STRAPPING SYSTEMS

Strap width	Seal type	Sealing Method	For use in tool	Seal length in mm	Seals per box
12,7 mm	50 DYS	crimp	D-504, YD-504	19,0	2.500
	50 DY	crimp	D-504, YD-504, D-506, YD-506	28,6	2.500
	50 DL	buckle	DLT	20,0	5.000
	50 SL	buckle	DLT	32,0	2.500
	50 ASD	crimp	ASL/ASM, APT-50	28,6	3.000
	50 AD	crimp	ASM, APT-50	28,6	2.000

SIGNODE SEALLESS STEEL STRAPPING SYSTEMS



Width (mm)	Strap dimensions Gauge (mm)	Tool	Width (mm)	Gauge (mm)	Strap dimensions Strap type	Machine
12,7 (1/2")	0,40 - 0,60 0,40 - 0,60 0,50 - 0,60	SMK-12 SLC-12 SPC-12	12,7 (1/2")	0,40 - 0,50 0,40 - 0,60	Apex® Magnus®	AK-100-12
16 (5/8")	0,40 - 0,60 0,40 - 0,60 0,40 - 0,60	SMK-58 SLC-58 SPC-58	16 (5/8")	0,40 - 0,50 0,40 - 0,60	Apex Magnus	AK-100-16
19 (3/4")	0,40 - 0,63 0,40 - 0,80	SMK-34 SPC-34	19 (3/4")	0,40 - 0,50 0,40 - 0,60 0,50 - 0,80	Apex Magnus Apex Magnus	AK-100-19 M-400S-34
25,4 (1")	0,80	SHP-100 SPC-100	25 (1")	0,70 - 1,10	Apex Magnus	M-400S-100
31,75 (1 1/4")	0,80	SHP-1431 SPC-1431	31,75 (1 1/4")	0,70 - 1,10	Apex Magnus	M-400S-114

SIGNODE PLASTIC STRAP SEALING SYSTEMS

For applications where electrically or pneumatically powered hand tools or strapping machines are in use, strap sealing has been traditionally by vibration or heat-weld sealing.

Tensionweld® vibration sealing



Tensionweld is a SIGNODE patented system whereby the overlapping straps are sealed together by a secure joint, formed by vibration and pressure only.

Strap size in mm	Type	Tool	Strapping Machine PSM
5,0 6,35 9,2 9,5 9,5 11,1	109 209/212 1616 612 654 302-306	ECW	MLW MLW MCDW MLW MCDW MCDW
11,1	714/716/718	AECW VXL/M-2000-Z AECW VXL/M-2000-Z	GCEM-SPIRIT MCDW GCEM-SPIRIT MCDW
11,1	1716/1718	AECW VXL/M-2000-Z	GCEM-SPIRIT MCDW
12,7 15	1818/1822 935	VXL/M-2000-Z VXH-2000 VFM/H-935-C	MCDW AK-150
16	1840	VXL-16a VXM-16a	SP-16 SP-16

Heat sealing



The two strap ends are warmed and softened by a heat knife and are then pressed together to form a strong joint. For strapping machines, depending upon applications and model, SIGNODE has three different systems:

- Heatknife: cross-wise to the strap direction
- Heatknife: length-wise to the strap direction
- Rotation sealing: a patented SIGNODE system, cross-wise to the strap direction

Strap size in mm	Type	Heatweld (Lengthwise)	Machine	
			Heatweld (Crosswise)	Rotation
5,0 6,0 8,0 9,0 9,2 9,2 11,1 11,1	109W/114W SP-212 514W SP-654 614W 610 714/716/718 SP-714/SP-716 SP-718	SPIRIT SPIRIT SPIRIT	 MST/MSW AK-150	KRS KRS KRS
12,7 15,0	816/818 935	SPIRIT	AK-150 AK-150	

Strap size (mm)		Strapping tool type	Strap size (mm)		Strapping tool type
Width	Gauge		Width	Gauge	
12,7	0,38 - 0,60	SMK-12	19,0	0,38 - 0,63	SMK-34
12,7	0,38 - 0,60	SLC-12	19,0	0,38 - 0,80	SMC-34
12,7	0,58 - 0,60	SPC-12	19,0	0,38 - 0,80	SPC-34
16,0	0,38 - 0,60	SMK-58	25,4	0,80	SMK-100
16,0	0,38 - 0,60	SLC-58			SMK-100
16,0	0,38 - 0,60	SPC-58	31,75	0,80	SHP-1431

Z-weld

A similar system to Tensionweld and also a patented system. The weld is formed into undulations under pressure and vibration to give a consistent and very high joint-strength.

The company reserves the right to make technical changes without prior notification.