

Slide-Lag®

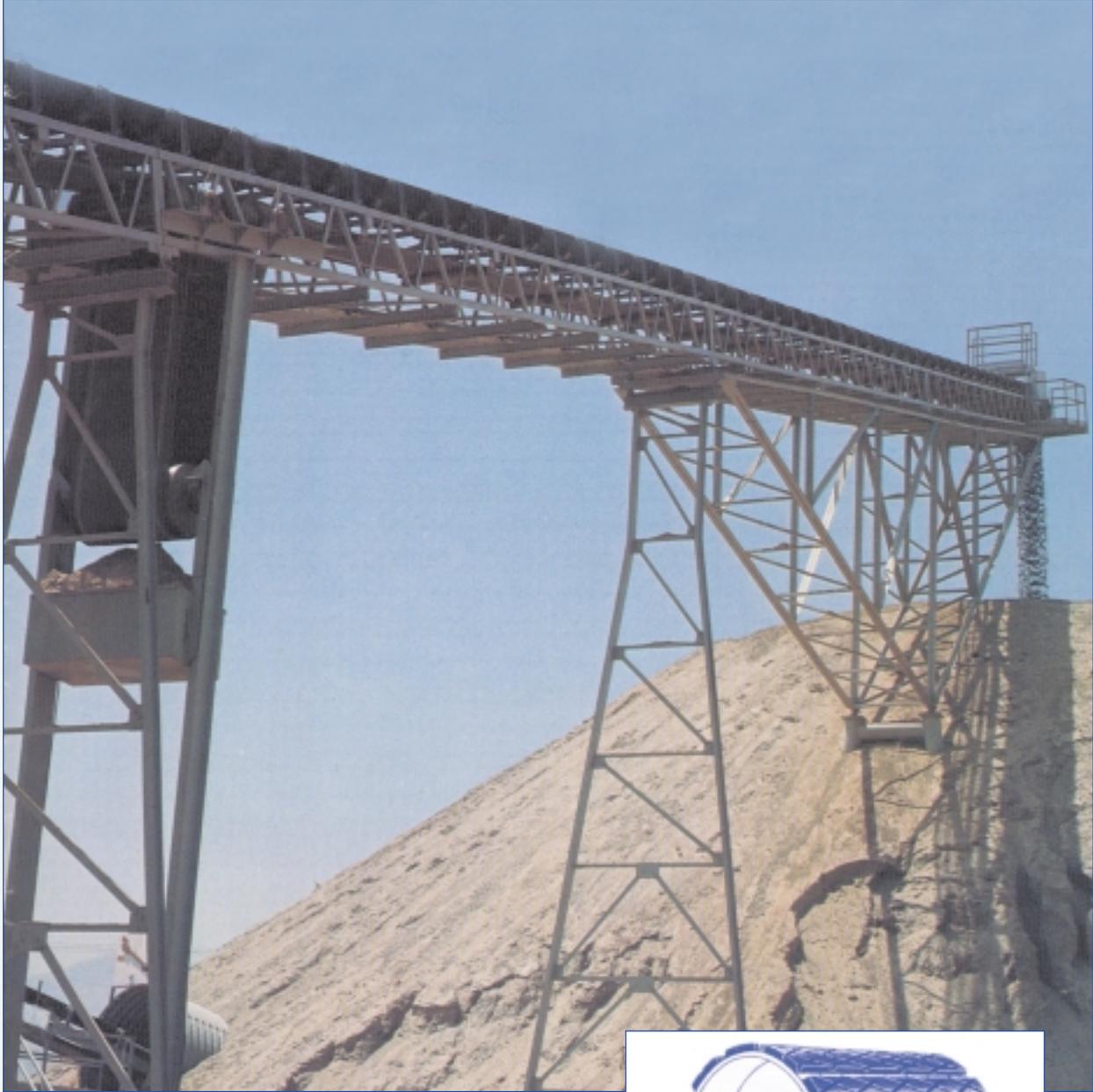


HOLZ
RUBBER COMPANY, INC.

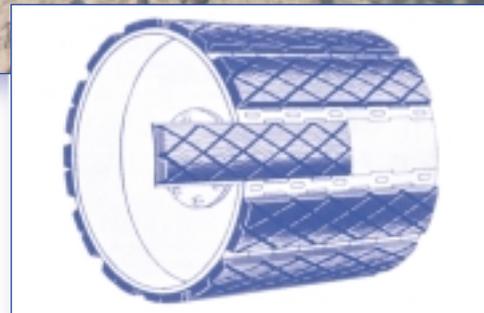
1-800-285-1600 • Quality Since 1935

An original HOLZ industrial rubber product...

Quality • Value • Service



Brochure PL 101 (5-02) Replaces PL 101 (9-94)



Slide-Lag®

REPLACEABLE

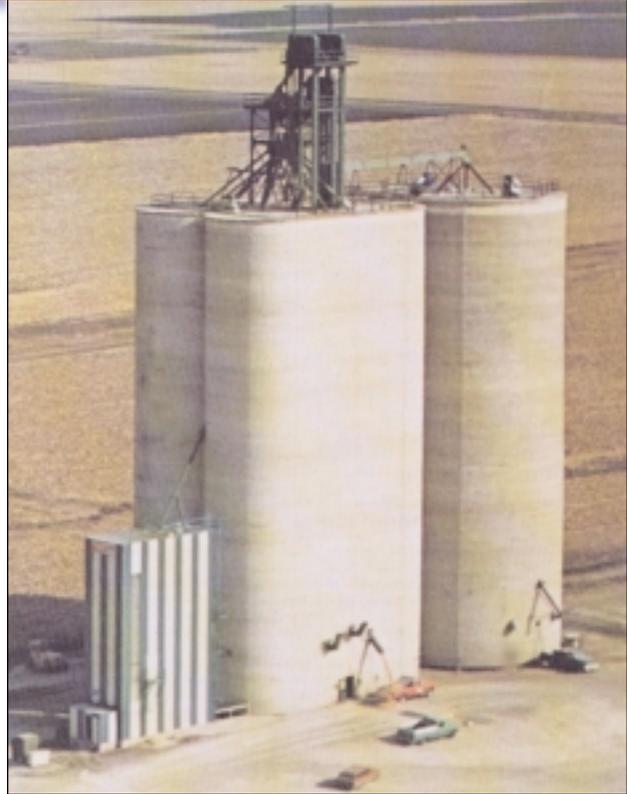
Pulley Lagging for Drive Pulleys...
Superior Traction for Conveyor and Elevator Systems

ENGINEERED LAGGING

for engineered conveyor and elevator systems

HOLZ Slide-Lag® traction pads – a unique and proven method of increasing conveyor and elevator performance. Designed for direct application to the drive pulley, this product can transform any belt system into a high-performance, low-maintenance operation. In addition to providing outstanding increases in the coefficient of friction (traction) between the belt and pulley, it serves to protect the pulley face and belt cover from damage and provides a self-cleaning action to prevent material build-up on the pulley.

Slide-Lag®'s combination of elastomer compounds and product design features is consistently superior to conventional vulcanized, cold bond or bolted-on pulley laggings. Unique factory bonding system eliminates lagging separation thus making Slide-Lag® ideal for severe service conditions with dual or high horsepower drives or using steel cable conveyor belts. The MSHA approved SOF compound provides an added margin of safety for potentially hazardous operations in underground mining and meets OSHA standards for grain and fertilizer handling.



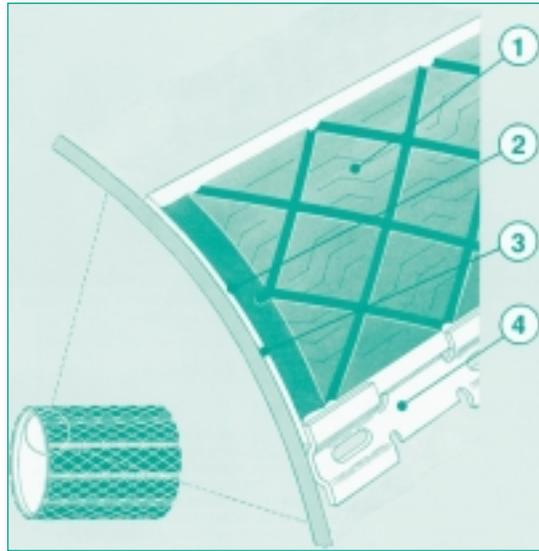
Grain industry operations require the superior performance features provided by Slide-Lag®.



Slide-Lag® provides cost savings underground where space and time requirements are always critical.

The SLIDE-LAG® Formula...

provides specially compounded elastomer padding vulcanized under high pressure to heavy-gauge steel plates which are shaped to conform to each pulley face. The plates slide in and out of special retainers which have been securely welded or bolted to the pulley face.



1. Exclusive elastomer compounding provides a lagging pad with exceptional drive-pulley traction, abuse resistance, and extra long service life. The elastomer retains its integrity under the most severe operating conditions.

2. Factory hot-vulcanization under pressure assures the best possible bond of rubber to backing plate. No lagging failures from loss of adhesion and separation — the most common problems associated with conventional lagging.

3. Steel backing plates are precision formed at the factory to fit the curved surface provided by each individual pulley diameter. Insures proper pad stability and long life.

4. Rust-resistant metal retainers are permanently welded or bolted to the pulley face to securely hold the lagging pads in place. When properly installed, lagging cannot shift or pull free from the effects of impact, trapped material, or belt or product movement.

These four special features make Slide-Lag® products the most unique and reliable system for lagging all conveyor and elevator pulleys. Slide-Lag® can be installed on the job, usually without removing either the belt or pulleys from the system. Eventual replacement of worn or damaged pads is even quicker and easier, since the retainers are already in place.

The Economy of Readily Available SLIDE-LAG®

Slide-Lag® is inventoried in standard factory produced lengths by authorized HOLZ stocking distributors. This offers system owners new economies by eliminating the need for in-plant stocks of lagging and/or extra lagged pulleys. Owners may also economize by installing the lagging themselves, using either of the following methods of application:

1.) The "butt seam" method, which utilizes all material cut from full pad lengths. The ends of each cut piece are butted together. Butt seam application is usually the most economical approach to use.

2.) The "full width" method, in which each pad row is provided with full face width pads that have no butt seams (except on pulleys over 72" wide, where a butt seam is used at the pulley center line). Absence of butt seams is attractive, but offers no performance advantage over the less costly butt seam application method.

Installation instructions are available for either method. Page 8 gives full details on how to order Slide-Lag®.

SLIDE-LAG®

lowers maintenance costs

• SUPERIOR TRACTION

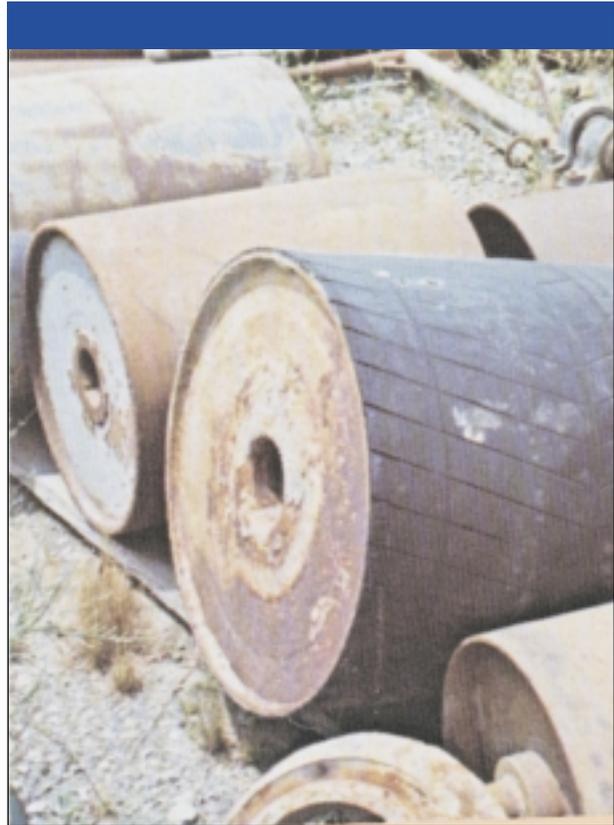
Slide-Lag®'s rubber compounding and tread-like surface which combines double chevron grooves and shallow slits on individual pads promote belt drive and maximum traction. Slide-Lag® has proven superior to all other lagging methods in a wide variety of applications throughout the world. This is particularly true where drive-pulley slippage has been a problem.

• LONGER LIFE

The retainers which form an integral part of the HOLZ Slide-Lag® installation method provide a strong, virtually unbreakable bond between the lagging and pulley face. This exclusive feature eliminates costly lagging failures from separation and loss of adhesion, and insures years of trouble-free performance. Pads are locked in place to prevent lateral movement using simple procedures outlined in Slide-Lag® installation instructions.

• ABUSE RESISTANCE

Slide-Lag® is fabricated from top quality, abrasion-resistant elastomers to a maximum practical thickness capable of withstanding the most severe operating conditions. Consequently, failures from rubber tearing or gouging are dramatically reduced, and maintenance costs are kept at a minimum.



Keep costly pulleys out of the graveyard — specify HOLZ Slide-Lag®.

SLIDE-LAG®

minimizes downtime

• EASY INSTALLATION

Slide-Lag® can normally be installed without removing the pulleys from operating position or opening the belt splice. Simply release belt tension to allow pulley rotation, attach retainers, slide and lock pads in place, tighten belt and resume operation. Slide-Lag® will effectively replace other types of lagging using the



Simple instructions in Holz Bulletin PL 105 make installation quick and easy.

same clean-up procedures that are always required to remove other types of old lagging. However, once Slide-Lag® is installed, future clean-up problems for lagging replacement are eliminated. When ordering new equipment, specify Slide-Lag® replaceable lagging for pre-installation prior to delivery.

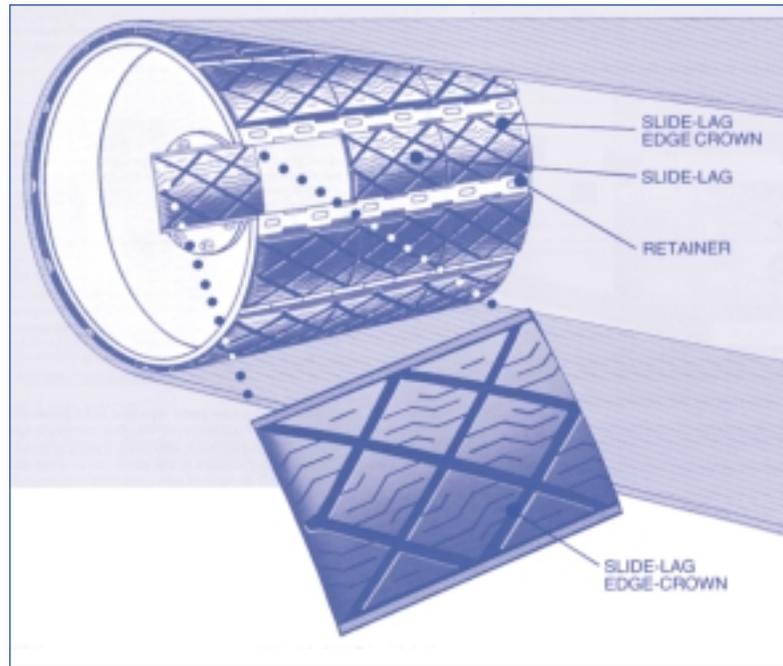
• QUICK REPLACEMENT

Replacing Slide-Lag® is even more convenient and easier to do, since the retainers are already in position. High costs generated by pulley removal for shipment to a rubber fabricator just to have lagging replaced are permanently erased. If scheduled maintenance time is limited, pads can be replaced a few at a time during the brief shutdowns that always occur during day-to-day operation.

• SELF-CLEANING

Slide-Lag®'s unique combination of double chevron grooves, shallow slits and individual pads results in a kneading or flexing action that actively resists material build-up. Foreign material works its way to the edges of the pulley through the channels between the pads where it falls away. This continuous, built-in, self-cleaning action keeps material build-up problems down, and associated belt tracking troubles virtually disappear.

Use **SLIDE-LAG® EDGE-CROWN®** to create a crown on a flat-face drive pulley



Standard conveyor engineering usually calls for a crowned surface on all drive pulleys. A crowned pulley is used to assist in tracking the belt or directing it back to the pulley center when the belt starts to wander. Eliminating erratic lateral belt movement is important in preventing damage to the belt caused by contact with the structure.

HOLZ Edge-Crown® transforms a flat-face pulley into a crowned configuration. Edge-Crown® lagging creates a barrel-shaped crown that eliminates the high

belt stress, scrubbing, and resultant wear associated with center crowned pulley designs. Installation is accomplished with Slide-Lag® pads in the center of the pulley and tapered Edge-Crown® pads on the sides.

Edge-Crown® also gives you:

- Superior traction
- Longer life and greater abuse resistance
- Self-cleaning action
- Quick and easy installation and replacement.

See diagram below for more detail on producing a crowned pulley with Slide-Lag® Edge-Crown®.

NOW AVAILABLE IN “HUSKY”



SLIDE-LAG® EDGE-CROWN®

SLIDE-LAG®

SLIDE-LAG® EDGE-CROWN®

PADS

Authorized HOLZ stocking distributors carry inventories of standard pads, complete with required retainers, for application by system owners using the “butt seam” or “full width” method. (Page 8). For “How to Order,” see Pages 8 and 9.

Style 5 SLIDE-LAG® PADS



Slide-Lag® traction pads with standard 60 durometer industrial compound for use on drive pulleys, in 72" lengths, formed to specific pulley diameters. Also available in all special compounds with or without stainless steel (SS) backing plates (Page 7).

NOW AVAILABLE IN “HUSKY”.

Style 7 EDGE-CROWN® PADS



Slide-Lag® Edge-Crown® traction pads with standard 60 durometer industrial compound for use on drive pulleys, in 10" lengths, formed to specific pulley diameters. Normally used in combination with Style 5 pads to provide a crown on a flat face drive pulley. Also available in all special compounds and standard or stainless steel (SS) backing plates (Page 7). **NOW AVAILABLE IN “HUSKY”.**

Style 9 BELT-SAVER® PADS



Belt-Saver® protection pads made from standard 40 durometer industrial compound for use on non-drive pulleys, in 72" lengths, formed to specific pulley diameters. For special service conditions, select from all special compounds with or without stainless steel (SS) backing plates (Page 7). For additional information on Belt-Saver® pads ask for Bulletin PL 10877A.

Style 11 EDGE-CROWN® PADS



Belt-Saver® Edge-Crown® protection pads standard in 40 durometer industrial compound for use on non-drive pulleys in 10" lengths, formed to specific pulley diameters. Normally used in combination with Style 9 pads to provide a crown on flat face non-drive pulley. Available in the same compounds and backing plate combinations as Style 9 for special service conditions (Page 7). Bulletin PL 10877 A provides additional information on Style 11 Edge-Crown® pads.

SETS

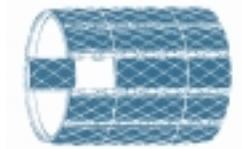
Assembled ready-to-install sets for a specific pulley are readily available from a HOLZ distributor, complete with retainers. Designed for “full width” application method (page 8). See Pages 8 and 9 for “How to Order”

Style 4 SLIDE-LAG® SETS



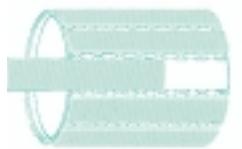
Slide-Lag® pulley traction pads, with standard 60 durometer industrial compound, in complete sets, cut to length and formed for specific pulley diameter, ready to install. For special service conditions select a special compound with or without stainless steel (SS) backing plates (Page 7).

Style 6 EDGE-CROWN® SETS



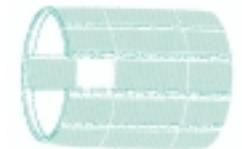
Complete set of Edge-Crown® and Slide-Lag® traction pads which together will completely cover a specific pulley diameter and face width. Same compound as Styles 5 and 7. Ready to install. Use special compounds and/or stainless steel (SS) backing plates for special service conditions (Page 7).

Style 8 BELT-SAVER® SETS



Belt-Saver® protection pads, in complete sets, cut to length and formed to a specific pulley diameter, ready to install. Same compound as Style 9. All special service conditions (Page 7). For additional information on Belt-Saver® sets ask for Bulletin PL 10877 A.

Style 10 EDGE-CROWN® SETS



Complete set of Edge-Crown® and Belt-Saver® protection pads which together completely cover a specific pulley diameter and face width. Uses same compound as Styles 9 and 11. Ready to install. Special service conditions may require a special compound and stainless steel (SS) backing plates (Page 7). Bulletin PL 10877 A gives additional information on Belt-Saver® Edge-Crown® sets.

SPECIAL SERVICE CONDITIONS require special SLIDE-LAG® and EDGE-CROWN®

GENERAL INFORMATION

As with all non-standard or “special” applications, many variables must be taken into account when selecting an appropriate pulley lagging product to give ultimate service life. The information below is intended to provide general guidance for the selection of special service SLIDE-LAG® components. For any specific application, contact an authorized HOLZ representative for verification of the specification selected. Also consult with HOLZ “Elastomer Specification Tables”, Form No. 2002R, for additional assistance.

These special materials are available with all SLIDE-LAG® products, including EDGE-CROWN® and BELT-SAVER® EDGE-CROWN®.

1. SOF - STATIC CONDUCTIVE/OIL RESISTANT/FLAME -STOP

Static Conductive, Oil Resistant and Flame Stop properties are combined into an exclusive compound that reduces the risk of explosion, fire and oil-related lagging failure. Static electricity that may accumulate on the belt is allowed to drain off through the lagging to ground (in a properly grounded system), helping to reduce the danger of dust explosion. Oil resistance of this compound allows use in moderately oily applications involving the presence of certain hydrocarbons, fats, oils, greases, hydraulic fluids, solvents and moderate chemicals. The outstanding self-extinguishing characteristic of the SOF compound makes it ideal for use in grain and fertilizer handling applications and meets the OSHA standards for static conductivity. The SOF compound has also received MSHA approval for use in underground mining applications. SOF meets the following:

- RMA¹ test 808.1 for static conductivity
- RMA¹ test 809.1 for flame resistance
- ASTM² D991 for static conductivity
- MSHA³ approved compound for underground use

NOTE: Where MSHA approved compounds is required, specify ID #1C-97/2 when ordering. Specify SOF with Style Number.

2. FS - FLAME-STOP

Flame-Stop should be used where self-extinguishing characteristics are of major benefit, such as underground coal-mining and grain and fertilizer handling operations. Flame-Stop compound meets the test requirements established for conveyor belting under RMA¹ test 809.1 for flame resistance and has received MSHA³ approval for use in the underground mining. Where MSHA approved compound is required, specify:

- ID #1C-97/1 for 65 durometer Slide-Lag® Flame-Stop.
- ID #1C-97 for 40 durometer Belt-Saver® Flame-Stop.

Specify FS with Style Number.

3. BN - BUNA-N

SLIDE-LAG® with BUNA-N (BN) compound is especially suitable for applications involving the presence of certain hydrocarbons, fats, oils, greases, hydraulic fluids and chemicals. It will also withstand moderate temperatures. Specify BN with Style Number.

4. EP-HEAT RESISTANT (EPDM)

Heat resistant (EP) SLIDE-LAG® should be selected for pulley lagging applications involving continuous operating temperatures in the range of 250°F or intermittent temperatures to 350°F. EPDM also offers advantages in the presence of certain unusual materials such as animal or vegetable oils and strong or oxidizing chemicals. Specify EP with Style Number.

5. HY - CHEMICAL RESISTANT (HYPALON)

Conveying or elevating applications involving some chemicals, alkaline solutions, freon, alcohols, hydrogen, aliphatic hydrocarbons and moderate temperatures are all potential candidates for the use of SLIDE-LAG® with Hypalon (HY) compound. Specify HY with Style Number.

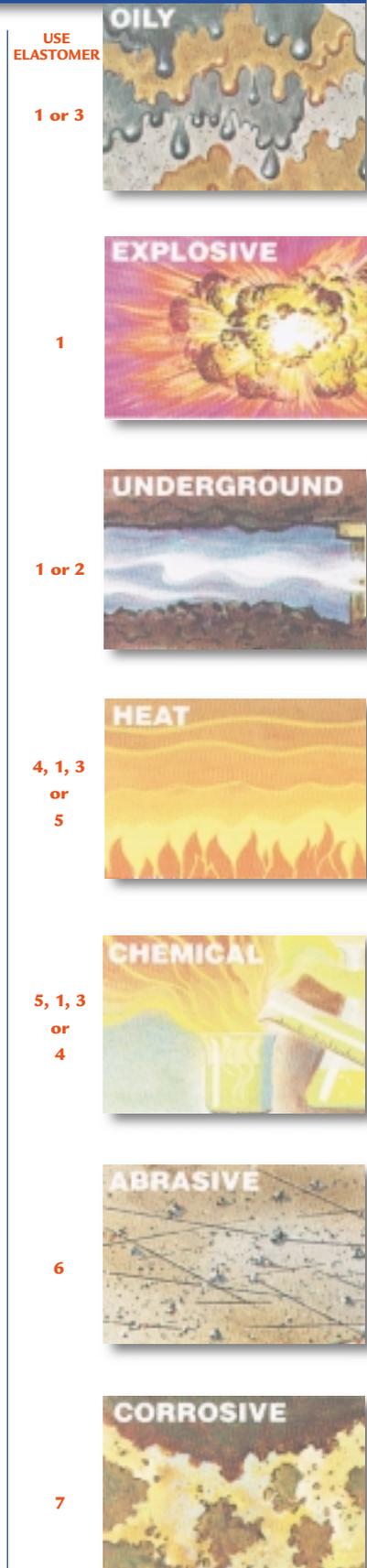
6. “HUSKY” (HEAVY DUTY PADS)

“HUSKY” SLIDE-LAG® pads are designed for use in especially severe operating conditions to increase total pad life and reduce belt slippage. These pads are 3/4" nominal overall gauge compared to the standard 9/16" to resist abrasion and gouging, and increase the “gripping” action of the pad to the belt. “HUSKY” may be produced with any available compound and stainless steel backing plates if required. Specify “HUSKY” Pad with Style Number and Compound Designation.

7. SS - STAINLESS STEEL

All standard and special elastomer compounds for SLIDE-LAG® are available with Stainless Steel (SS) backing plates and retainers. Type 304 stainless steel is provided unless otherwise specified. SLIDE-LAG® using stainless steel is recommended for highly corrosive environments such as coke ovens and fertilizer and chemical plants — often in conjunction with one of the special compounds shown above. Specify SS with Style Number and Compound Designation.

1. Rubber Manufacturers Association
2. American Society for Testing and Materials
3. Mine Safety and Health Administration
4. Individual compounds FS, SC and OR have been discontinued and replaced by combination compound SOF.





How to order SLIDE-LAG®

PRE-INSTALLED ON NEW PULLEYS

Conveyor and elevator pulleys can be readily obtained with Slide-Lag® pre-installed from a pulley manufacturer, his distributor, or an authorized HOLZ distributor. Simply specify Slide-Lag® when ordering. Or the pulley may be purchased separately and Slide-Lag® installed on site.

FOR ON-SITE INSTALLATION ON NEW OR USED PULLEYS

Determine which method of application is to be used:
 A.) "Butt seam" method using 72" pads which makes maximum use of all material; however, pieces 4" or

shorter should be discarded. The number of 72" pads required for butt seam application for most common pulley diameters can be obtained from Table 1 below. However, Slide-Lag® can be factory formed to any diameter and installation accomplished using published installation procedures. For pulley face widths not shown, use the next larger width, or use the formula to calculate requirements. See Page 10 for a more detailed explanation of the butt seam application method.

B.) "Full width" method with pads cut to exact pulley face width, no butt seams. (See paragraph below.†)

TABLE 1 Number of 72" pads required for selected pulley diameters and face widths (butt seam application).

		PULLEY FACE WIDTH																			
		12"	14"	16"	18"	20"	22"	24"	26"	30"	32"	36"	38"	40"	44"	46"	51"	54"	60"	66"	72"
PULLEY DIAMETER	6"	1	1	1	1	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	
	8"	1	1	1	1	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	
	10"	1	1	2	2	2	2	2	2	3	3	3	3	3	4	4	4	4	5	5	5
	12"	1	2	2	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	6	6
	14"	2	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	6	6	7	7
	16"	2	2	2	2	3	3	3	3	4	4	4	5	5	5	6	6	6	7	8	8
	18"	2	2	2	3	3	3	3	4	4	4	5	5	5	6	6	7	7	8	9	9
	20"	2	2	3	3	3	4	4	4	5	5	5	6	6	7	7	8	8	9	10	10
	24"	2	3	3	3	4	4	4	5	5	6	6	7	7	8	8	9	9	10	11	12
	30"	3	3	4	4	5	5	5	6	7	7	8	8	9	10	10	11	12	13	14	15
	36"	3	4	4	5	5	6	6	7	8	8	9	10	10	11	12	13	14	15	17	18
	42"	4	5	5	6	6	7	7	8	9	10	11	12	12	13	14	15	16	18	20	21
	48"	4	5	6	6	7	8	8	9	10	11	12	13	14	15	16	17	18	20	22	24
	54"	5	6	6	7	8	9	9	10	12	12	14	15	15	17	18	20	21	23	25	27
60"	5	6	7	8	9	10	10	11	13	14	15	16	17	19	20	22	23	25	28	30	
72"	6	7	8	9	10	11	12	13	15	16	18	19	20	22	23	26	27	30	33	36	

NOTE: This table utilizes all lengths over 4 inches long by butting them end-to-end in a random pattern.

FIGURE 1 Formula for selecting the number of 72" pads required for any pulley diameter and face width (butt seam application).

Butt Seam Method

Instead of using the table, the number of 72" pads required for any pulley may be calculated using the following simple procedure:

Example: 36" diameter x 38" face pulley

- | | |
|--|---|
| 1. Divide the pulley diameter by 2 to determine the number of rows of pads needed to go around the pulley. | 1. $\frac{36" \text{ diameter}}{2} = 18 \text{ rows of pads}$ |
| 2. Multiply the number of rows of pads by the pulley face width. | 2. $18 \times 38" = 684"$ |
| 3. Divide by 72" to determine the quantity of full-length pads needed. Round up to the next full length. | 3. $\frac{684"}{72"} = 9.5 \text{ or } 10 \text{ full length pads required.}$ |

† Full Width Method

When no butt seams are desired, the number of 72" pads required will depend entirely on the pulley and the quantity of face-width pad lengths which can be cut from one 72" pad. In the example shown at left, 18 pads would be needed.

HOLZ authorized distributors can arrange for complete on-site installation of Slide-Lag® products on request.



TO ORDER

Pulleys 20" or under in face width:

Style 7 Edge-Crown® pads are installed by butting the thicker pad ends at the pulley center line. Pulleys under 20" wide will require trimming equal lengths from the thinner end of each pad.

Pulleys over 20" face width:

The center area between the Edge-Crown® pads is filled with pieces of Style 5 Slide-Lag® cut to the length required (see illustration, Page 5). Where the center void is 4" or less, adjust the length of the Edge-Crown® pads, as described above, to provide more than a 4" length of Style 5 in the center.

To determine how much material (Style 5 and Style 7) to order, use the following procedure:

Step 1 The number of Edge-Crown® pads needed is equal to the pulley diameter (a 30" diameter pulley will require 30 Edge-Crown® pads).

Step II Calculate the quantity of 72" Slide-Lag® pads required to fill in the portion of each pad row between the Edge-Crown® pads:

A.) Subtract 20" from the pulley face width. (See illustration, Page 5.)

B.) Use the resulting figure to select a quantity of 72" Slide-Lag® pads. (See Page 8.)

EXAMPLE: 48" diameter x 46" face pulley

1.) A 48" diameter pulley requires 48 Edge-Crown® pads.

2.) $46" - 20" = 26"$ (From Table 1 you will need nine 72" pads.)

* These same procedures also apply to ordering Belt-Saver® Edge-Crown®.

RETAINERS



DOUBLE

Style 51-D: Standard

Style 52-D: Stainless Steel



SINGLE

Style 51-S: Standard

Style 52-S: Stainless Steel

Double and single retainers are sold separately.

Holz Distributors can furnish specific details regarding quantities.

INSTALLATION & AVAILABILITY

- Installation instructions are published in HOLZ Bulletin PL 105. Authorized HOLZ distributors will furnish these instructions on request, as well as guidance and assistance for special or unusual circumstances.

All Slide-Lag® products are suited to any pulley diameter from 6" and up, and to essentially any pulley face width. HOLZ stocking distributors carry complete inventories of standard products to fill a

broad range of requirements. Slide-Lag® products can be used on metric-dimensioned pulleys as well as odd or unusual sizes. Special installation procedures as described in Bulletin PL 105 will be required.

- In addition to the products described in HOLZ literature, various other Slide-Lag® items can be made available to fulfill unusual requirements.

Contact a HOLZ distributor for further information regarding specific applications.

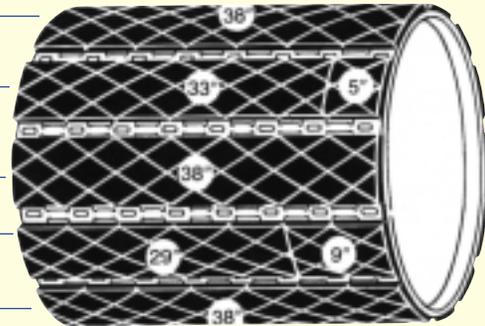
BUTT SEAM APPLICATION

Table 1, Page 8, and the formula below it describe the quantity selection process for the “butt seam” method of applying Slide-Lag® products.

This method makes full use of all lengths cut from 72" pads (except those 4" or under), which are discarded. The butt seams in each pad row should be staggered from row to row when possible. The sample installation shown below visually describes this application method. Note that the butt seams are staggered.

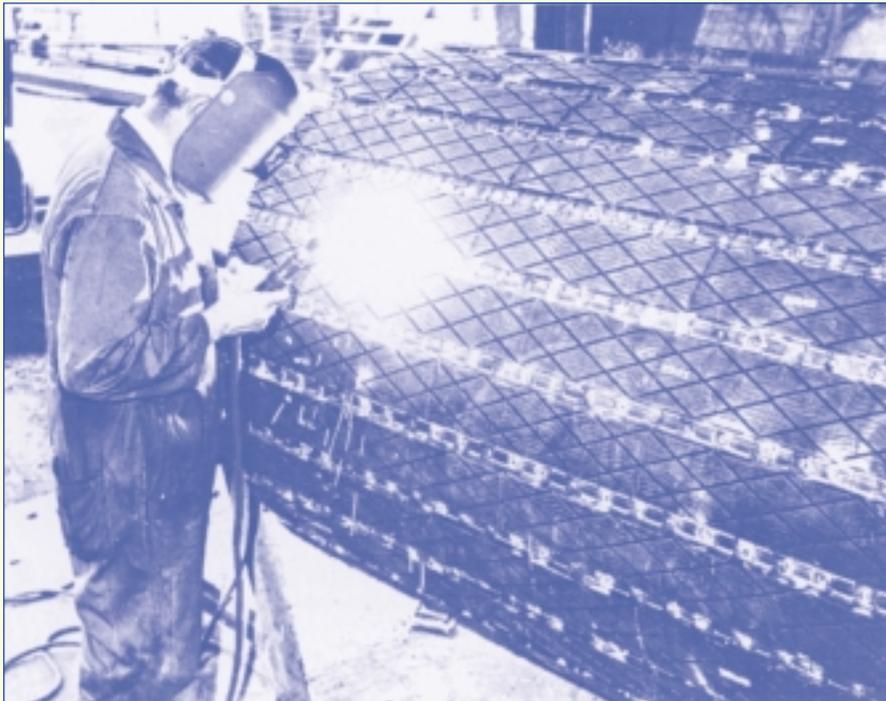
EXAMPLE: 38" PULLEY FACE WIDTH

- Pad row 1, cut 38" from 72" length
- Pad row 2, cut 33" from 34" remnant from above, discard 1" remaining; cut 5" from another 72" length
- Pad row 3, cut 38" from 67" remnant from above
- Pad row 4, insert 29" remnant from above; cut 9" from a new full length
- Pad row 5, cut 38" from 63" remnant from above
...and so on, until pulley is completed



Edge-Crown® sets also make use of the butt seam application method for the pads inserted between the Edge-Crown® pads in each row; however, center sections can be provided without seams on request (Pages 5 and 8).

Page 11 provides a cutting layout for use in planning the required cuts for a specific pulley.



Proper installation will provide the full service life and performance that make HOLZ Slide-Lag® products an exceptional investment.

CUTTING LAYOUT FOR 72-INCH PADS

Pulley diameter: _____ Pulley face width: _____

Pad Number

Pulley diameter	Requires this many rows of Slide-Lag®	Which can be cut from this many 72" lengths (see page 8)
6"	3	
8"	4	
10"	5	
12"	6	
14"	7	
16"	8	
18"	9	
20"	10	
24"	12	
30"	15	
36"	18	
42"	21	
48"	24	
54"	27	
60"	30	
72"	36	

100% MONEY-BACK GUARANTEE

HOLZ guarantees complete satisfaction with each installation of Slide-Lag®

- 1.) Superior traction with Slide-Lag®
- 2.) Improved lagging performance
- 3.) Simple, quick installation and replacement

Installation must have been made in accordance with instructions published by HOLZ.

This warranty is limited to claims made within a sixty (60) day period from date of installation.