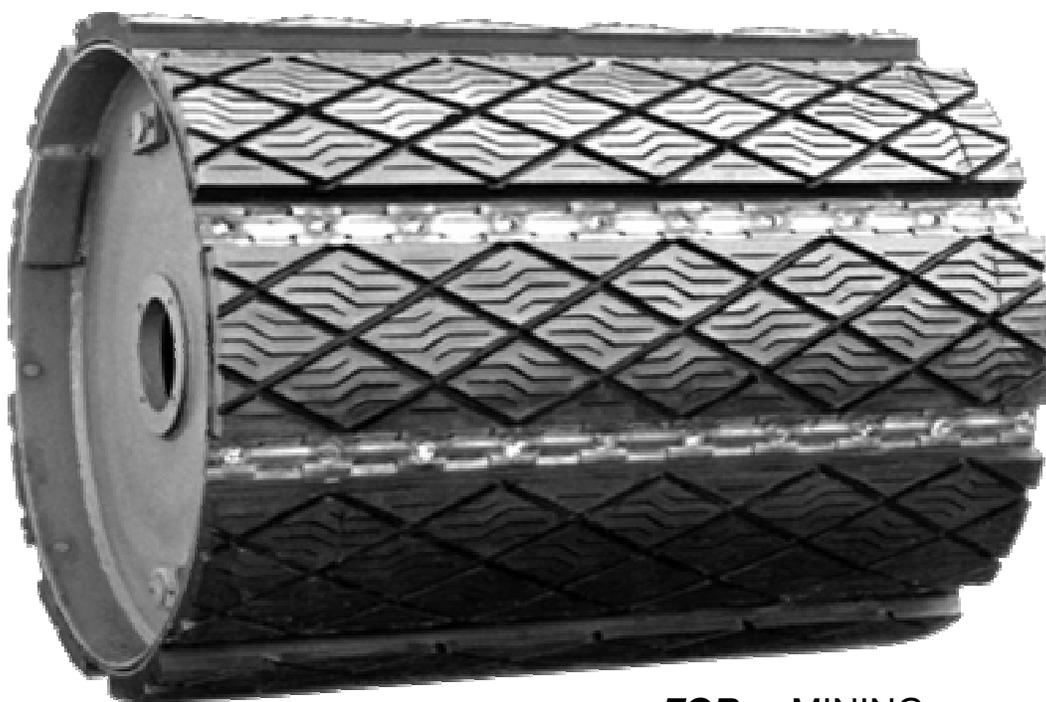


# PAD-LAG<sup>®</sup>



**FOR:** MINING  
CRUSHED STONE  
SAND & GRAVEL  
CEMENT  
AGRICULTURE  
FOOD PROCESSING  
COAL MINING  
POWER GENERATION  
FEED & GRAIN  
GENERAL INDUSTRY

rigid-back pulley lagging . . .

pre-formed to fit!



## REDUCE MAINTENANCE COSTS

Pad-Lag® pulley lagging incorporates a well-known and time-tested design which offers several benefits that make it an excellent choice for lagging conveyor and elevator pulleys. Purchase and installation costs, as well as service life, for Pad-Lag® can be compared favorably to vulcanized lagging and at the same time it furnishes a unique replaceability feature not available with any other type of lagging.

### REPLACEABLE

The Pad-Lag® system makes use of specially designed metal retainers to attach the lagging pads securely against the pulley face. These retainers may be either welded or bolted to the pulley surface. The edges of the lagging pads fit under the tabs of the retainers, allowing the pads to slide in and out during installation or when normal wear and tear or unforeseen damage requires eventual replacement. The lagging pads are locked in place to prevent movement while operating using simple procedures given in the Pad-Lag® installation instructions.

### QUALITY COMPONENTS

All of the rubber compounds used in manufacturing Pad-Lag® are formulated using high quality ingredients as a way of providing optimum service life. In the molding process, the rubber pad is permanently bonded to the metal backing plate under high temperature and pressure. This process essentially eliminates the possibility of separation failures that are so common with most other types of lagging.

Stainless steel pad components, instead of the standard mild steel, are used when required to resist corrosion from the local atmosphere or the materials being carried, or both. Type 304 stainless steel is used for Pad-Lag® retainers and/or backing plates unless another grade is specified.

### LOWERED INSTALLATION TIME

Very often, Pad-Lag® lagging pads can be installed on conveyor and elevator pulleys without the need to remove the pulleys from their normal operating positions. The workspace available, location of the pulley on the system and the ability to jog the pulley in small increments are the only limiting factors

affecting on-site installation. On-site Pad-Lag® installation cannot be beat for total cost savings when compared to the combined cost of labor, materials and downtime required to remove and re-lag pulleys using other lagging methods.

Pad replacement due to the inevitable wear or damage is enhanced since the retainers have already been attached to the pulley, even if the initial installation was not done on-site.

Pad-Lag® may be specified as the lagging for new systems or when buying replacement pulleys since it can easily be installed by the local distributor or pulley manufacturer.

### LONG SERVICE LIFE

The rubber compounds used in Pad-Lag® are formulated for maximum wear and abuse resistance. Consequently, the pads possess a built-in protection against chunking, gouging or tearing caused by trapped material as well as the abrasion that results from temporary material accumulations. Pad-Lag® rubber compounds designed for use in the presence of oil, heat and other deteriorating conditions are also formulated for maximum resistance to the effects of those operating environments. The standard Pad-Lag® elastomer thickness is 1/2", while thicknesses from 7/16" through 3/4" can be special ordered.

All metal components are designed to last even under the most severe operating conditions. For over 20 years, the Pad-Lag® lagging design has been providing outstanding service in a wide variety of operating conditions, to include high horsepower drives and steel cable belt installations. Properly installed, Pad-Lag® will provide years of trouble-free operation.

## IMPROVE CONVEYOR/ELEVATOR OPERATION

### EXCEPTIONAL TRACTION

The unique Pad-Lag® design, coupled with sophisticated rubber compounding, gives truly exceptional drive pulley traction. The surface of the Pad-Lag® pad is double-grooved and contains small molded slits (sipes) which combine to provide outstanding traction. The spaces between the pads also assist the driving effort as the transverse edge of each pad grips the belt, simulating a "cog" effect.

### SELF-CLEANING

The pad surface flexes during operation due to the presence of the double-grooving, spaces between the pads and the sipes. This continuous kneading action actively resists material buildup on drive pulleys. Foreign material is forced to the edges of the pulley through the spaces between the pads where

it falls harmlessly away.

On non-drive pulleys, the softer durometer, smooth surface pads are recommended to prevent buildup, especially where the lagging contacts the carrying side of the belt.

### SYSTEM PROTECTION

Pad-Lag® lagging pads furnish other benefits in addition to increasing traction on drive pulleys. They help protect the belt covers and the pulley face from wear and damage, as well as assisting in the elimination of belt tracking and splice problems associated with material buildup on the pulleys.

## HOW TO SPECIFY PAD-LAG® ‡

TRACTION PADS (DRIVE PULLEY)		SMOOTH PADS (NON-DRIVE PULLEY)	
FULL PADS	Full-length traction pads (drive) are series designated as Pad-Lag® 5000. Compounds other than the standard industrial grade are identified by changing one or both of the last two digits in the product name. For example, Pad-Lag® 5020 designates a Nitrile elastomer. The subscript /9 after the product name indicates stainless steel backing plate. The pulley diameter must always be given for each Pad-Lag® pad required.	FULL PADS	Full-length smooth pads (non-drive) are series designated as Pad-Lag® 9600. Changing the third digit in the product name specifies a compound other than the standard industrial grade. For example, Pad-Lag® 9630 signifies EPDM. Adding the subscript /9 identifies stainless steel backing plates. The pulley diameter must always be given for each Pad-Lag® pad required.
CUT SETS	A cut set, ready to install, of any Pad-Lag® product is identified by the subscript C after the complete pad number. The pulley diameter and face width must also be given when specifying a cut set. Add the words Step-Crown when necessary.	CUT SETS	A cut set, ready to install, of any Pad-Lag® product is identified by the subscript C after the complete pad number. The pulley diameter and face width must also be given when specifying a cut set. Add the words Step-Crown when necessary.

‡ Refer to Price List 6.50 for more information.

# WHEN ORDERING PAD-LAG® RETAINERS . . .

For the more common pulley sizes, select the number of Pad-Lag® pads needed from Table A below, or calculate the proper number of pads using Formula A below. For cut sets, the only information required is the pulley diameter and face width.

TABLE A		Quantity of Pad-Lag® pads needed for specific pulley sizes ① ②																			
		Pad-Lag® pads are 5-7/16" wide x 6' long																			
PULLEY DIA. (IN.)		FACE WIDTH (IN.)																		No. of Pad Rows	
		12	14	16	18	20	22	24	26	30	32	36	38	40	44	46	51	54	60		66
6	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3
8	1	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	4	4	4	4	4
10	1	1	2	2	2	2	2	2	3	3	3	3	3	4	4	4	4	5	5	5	5
12	1	2	2	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	6	6	6
14	2	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	6	6	7	7	7
16	2	2	2	2	3	3	3	3	4	4	4	5	5	5	6	6	6	7	8	8	8
18	2	2	2	3	3	3	3	4	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	10
24	2	3	3	3	4	4	4	5	5	6	6	7	7	8	8	9	9	10	11	12	12
30	3	3	4	4	5	5	5	6	7	7	8	8	9	10	10	11	12	13	14	15	15
36	3	4	4	5	5	6	6	7	8	8	9	10	10	11	12	13	14	15	17	18	18
42	4	5	5	6	6	7	7	8	9	10	11	12	12	13	14	15	16	18	20	21	21
48	4	5	6	6	7	8	8	9	10	11	12	13	14	15	16	17	18	20	22	24	24
54	5	6	6	7	8	9	9	10	12	12	14	15	15	17	18	20	21	23	25	27	27
60	5	6	7	8	9	10	10	11	13	14	15	16	17	19	20	22	23	25	28	30	30
72	6	7	8	9	10	11	12	13	15	16	18	19	20	22	23	26	27	30	33	36	36

- NOTES: ① Quantities based on using all short lengths produced from cutting.  
 ② See Formula A for other sizes.

## FORMULA A:

To calculate the number of 72" long lagging pads needed for normal installation on any diameter (over 6") and face width pulley, using all short lengths produced from cutting. Consult the Pad-Lag® Installation Instructions, SRC 515, for guidance on odd or over-size pulleys.

1. Divide the pulley diameter by 2 = number of pad rows.
2. Multiply the number of pad rows by the face width and divide by 72". Round up to the next full pad length.

# WHEN ORDERING PAD-LAG® WITHOUT RETAINERS . . .

For the more common pulley diameters, select the number of Pad-Lag® pads required from Table A above, or calculate the proper number of pads using Formula A above. For cut sets, the only information required is the pulley diameter and face width.

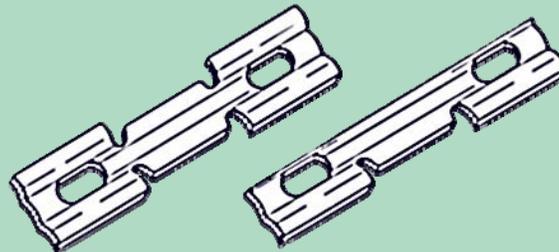
Use 3/4" as the approximate spacing between pads when installing Pad-Lag® without retainers in a normal installation. Consult the Pad-Lag® Installation Instructions, SRC 515, for guidance on the proper number of pad rows and pads and the correct pad spacing to be used on odd or over-size pulleys.

## RETAINERS

Pad-Lag® may be installed using the retainers that are available as optional items from SRC. These retainers will permit easy replacement of the lagging pads in most applications. They are stocked in both single and double styles as pictured below, and in both mild steel and stainless steel.

### DOUBLE

- 10 - mild steel
- 20 - stainless steel



### SINGLE

- 11 - mild steel
- 21 - stainless steel

When retainers are desired, they should be ordered in addition to the required lagging pads on the basis of one 6' double and 1/4 of one 6' single per 6' Pad-Lag® pad used. The quantity of single retainers furnished is usually rounded up to the next whole 6' length.

EXAMPLE: How many retainers are furnished with 14 Pad-Lag 5000 pads?

- a. Double retainers - 14 pads = 14 doubles furnished
- b. Single retainers - 14 pads = 14/4 or 3.5 singles, rounded off to 4 singles furnished

## NOTE:

Installation on odd or over-size pulleys will change the normal mix of single and double retainers needed. Consult Pad-Lag® Installation Instructions, SRC 515, for further information.

# COMPOUNDS/SERVICE CONDITIONS

The Pad-Lag® general service industrial rubber compounds will provide excellent service in a wide variety of normal applications. Other service conditions, while common, may be considered to be unusual and require special consideration. Most often, these conditions involve heat, oil and/or static conductivity and should be handled by one of the other rubber compounds shown in the Pad-Lag® price list.

Occasionally, even more unusual operating conditions will dictate that a rubber compound must be selected for non-standard color, durometer, chemical resistance, etc. even beyond the capabilities of the special items normally carried in stock. In such a case

SRC will select an appropriate compound from the several thousand available in its files, or will design one from scratch.

The rubber compound selection data shown below gives general guidelines regarding the selection of basic rubber classes for the most commonly found, yet unusual, conveyor and elevator operating conditions. Contact SRC for assistance in selecting the specific rubber compound that will provide optimum service life in a given application.

## For This Unusual ① Service Condition



## Usually Select From These Elastomers

Neoprene, Nitrile, Silicone

EPDM, Neoprene, Silicone, Nitrile, Hypalon®

Neoprene ②

## For This Unusual ① Service Condition



## Usually Select From These Elastomers

Hypalon®, Neoprene, Nitrile, EPDM, Silicone

Neoprene ②

① Special consideration is required where more than one condition exists.

In selecting a lagging compound for unusual conditions, availability and cost of the finished product will normally be made a part of a complete evaluation. Short delivery from stock on the second best compound for the conditions involved may outweigh an expected reduction in service life when comparing to the best compound that may not be in stock and which may have a higher cost.

② Neoprene elastomer compounded for flame resistance and static conductivity. Accepted for underground mines (MSHA #IC-165/1) when used in accordance with SRC's health and safety instructions and recommendations.

60 durometer ±5, Shore A, for traction pads and 40 durometer ±5, Shore A, for smooth, non-drive pads are the generally accepted pulley lagging standards. Sometimes, a special use elastomer durometer may be adjusted slightly from these standards to optimize product life.

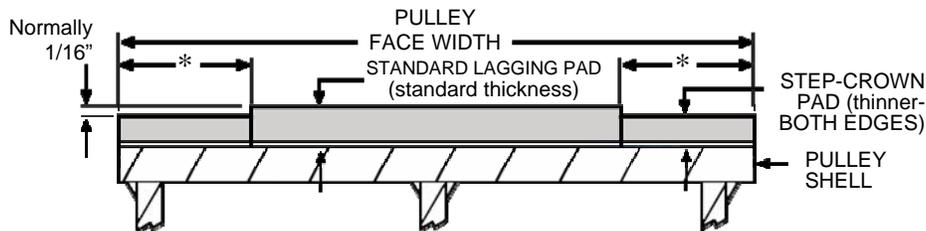
# USING STEP-CROWN TO CROWN A PULLEY

Conveyor belt tracking is always an item of concern when designing a conveyor system so as to prevent undesirable sideways belt movement that often results in costly belt damage. Probably the most widely used method of controlling belt wandering is to incorporate a crown into the surface of various pulleys in the system, usually the head, tail and take-up pulleys as a minimum.

SRC's Step-Crown concept allows the designer to apply the crown to the pulleys using the lagging, rather than having to form or machine the pulley shell to include a crowned shape. In some cases it may be desirable to

further amplify the tracking effects on a standard center-crowned or end-crowned pulley by adding Step-Crown in addition to the built-in pulley crown.

Step-Crown, when used on a plain or fiat-face pulley, helps reduce the higher belt stresses, cover scrubbing and splice problems that are often associated with center-crowned designs. The drawing below depicts a Step-Crown installation. Note that the basic installation concept is the same for both Weld-Lag® and Pad-Lag® product designs.



# WHEN ORDERING . . .

It will be necessary to calculate two pad quantities for each pulley; namely, the number of standard thickness pads needed to cover the center portion of the pulley shell, and the number of thinner pads needed to cover both of the pulley shell edges (see drawing above). Step-Crown pads are available either from inventory (10" long), or as special lengths that are cut from thinner than standard pads by the distributor or end-user.

To determine the actual quantities of each type of lagging pad to order, proceed as follows:

## STEP I Material Needed for the Pulley Edges

- The number of Step-Crown pads needed for a given pulley size, regardless of the length the pad is cut to, will be equal to two times the number of rows of pads being used.
- For standard, 10" long Step-Crown pads, order the quantity determined in a above.
- In the case of other than 10" lengths of Step-Crown, calculate the amount of material needed by:
  - Multiplying the number of Step-Crown pads determined in a above by the actual Step-Crown cut length.
  - Dividing that figure by 72" and rounding off using the procedure on page 3.

## STEP II Material Needed for the Pulley Center

First, subtract twice the Step-Crown pad length that is being used from the face width of the pulley. Then, using that result as a "new" face width, calculate the number of standard thickness pads required, following the usual procedure.

Odd or over-size pulleys require special consideration when determining the number of lagging pads needed, as does use of Pad-Lag® without retainers. Consult the Installation Instructions for additional guidance.

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