



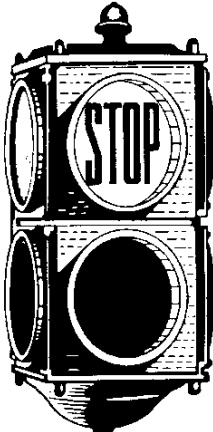
NEW!
Expanded Engineering and
Technical Data Sections! The
Industry's Most Complete and
Informative Urethane Selection
Guide.

NOMAR NYLON STRIPPER
U.S. PATENT NO. 3,690,-205



NOMAR™-URAFLEX®

Engineering and Selection Guide



Noise is Tiring

Stripping Problems

Increase Press Room Efficiency

With NOMAR™-URAFLEX® Nylon Strippers

**NOMAR™ URAFLEX® STRIPPERS, URAFLEX® SPRINGS, NOMAR™ SHEETS-SLABS-BARS-RODS
URAFLEX® SHEETS-SLABS-BARS, RODS**

TOLL FREE FAX: 1-800-622-3227

PIVOT SPECIAL FORMULA NOMAR-URAFLEX[®]

Attains extra-heavy tooling benefits unheard of (until now)!

URAFLEX[®], a revolutionary new urethane compound, combines the advantages of metals and non-metals with the elasticity of rubber and surpasses many physical properties of conventional urethanes . . . adding new factors for better tooling than ever before.

Similar to hydraulic fluid in terms of displacement, it can be moved under pressure and dampens shock, — allowing for an equal amount of volume for displacement. Because of its exceptional strength and toughness, Special Formula URAFLEX[®] has a comparatively phenomenal load-bearing capacity in tons of force and is particularly adaptable to extra-heavy duty work without rupturing or permanent deformation. When pressure is released, miracle URAFLEX[®] with its excellent memory qualities, returns to its original shape, retains its original physical properties and resists abuse un-

der extremely long periods of use. Unlike rubber, it is unaffected by oil, grease, and most chemicals and solvents.

Applications

Among its applications in the metalworking field are pressure pads, die pads, stripping pads, forming blocks, draw dies, embossing dies, bulging Punches, shedders, cylinder forming rolls, strippers and stripper springs. Pivot's Nomar™ Stripper, (See Page 4) combining a URAFLEX[®] tube with a thermo-bonded nylon bearing end cap that can be pierced to any shape, provides a stripper that will out-perform and outlive conventional strippers on difficult jobs by at least 300%. Consequently, URAFLEX[®] 13 offers entirely new challenges to the die designer.

Features of Uraflex[®]

1. Extra Tough, Extra Durable
2. Extreme Load Bearing Capacity
3. Combines Hardness and Resilience
4. Resists Abrasion Wear
5. Resists Oil, Chemicals, Solvents
6. Will Not Mar Metal Surfaces
7. Easy to Design In and Install
8. Safer—No Flying Spring Fragments
9. Quiet—Operating at Lower Noise Tolerance Level

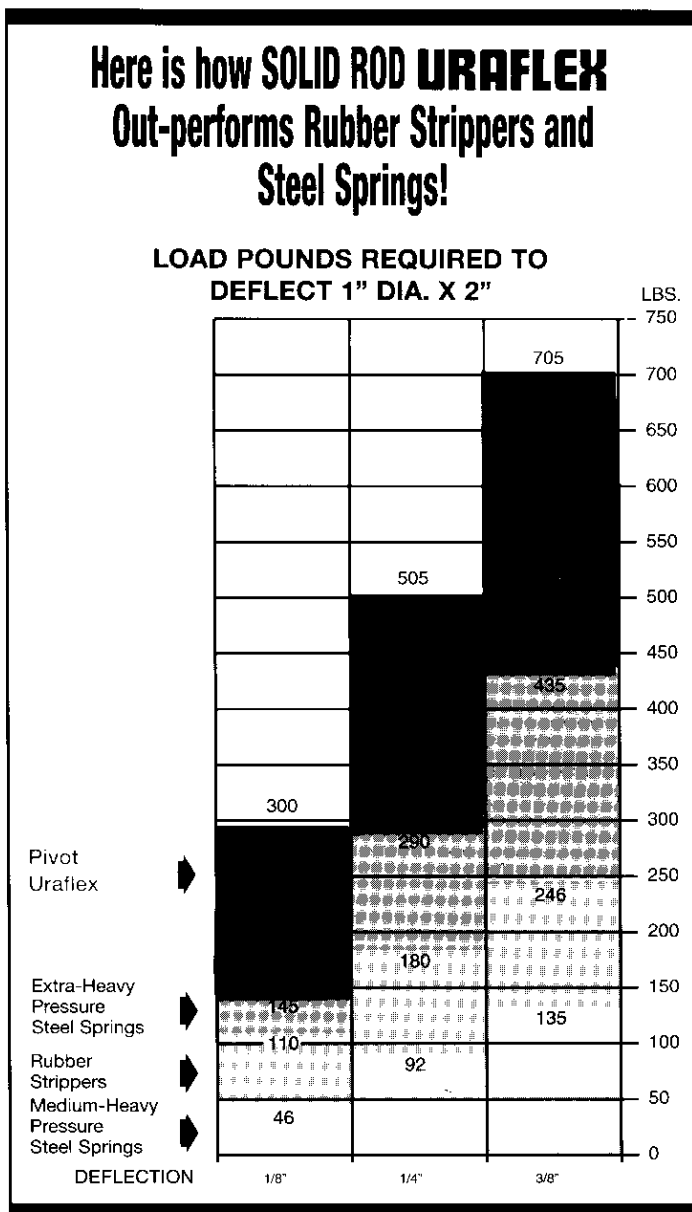
How tough can you get?

Pivot Extra-Heavy Duty URAFLEX[®] reaches proportions of deflection and advantages practically unheard of until now. For example, tonnage factors required to deflect solid rod URAFLEX[®] are much greater than those of metal springs (see charts). URAFLEX[®] returns to shape better, costs less and is safer to use because there is no danger of injury due to flying fragments as in the case of broken springs.

Uraflex[®] Physical Properties

Uraflex	U6040	U8030	U9025	U9520	U7505
Color	Natural	Natural	Green	Green	Natural
Durometer	60A	80A	90A	95A	75D
Maximum Deflection	40%	30%	25%	20%	5%
Tensile	4575 psi	5800 psi	7000 psi	6500 psi	8000 psi

NOTE: All values in this publication are based on tests as free standing cylinders or sections with ends unattached. Confinement of any portion of the diameter or periphery, or bonding of ends to restrict lateral movement will substantially increase these values. Conversely, lubrication of ends will assist lateral movement, and will tend to reduce these values.



PIVOT NOMAR-URAFLEX[®] NYLON STRIPPERS

Tough-Durable

Thermo-bonding of the hard nylon end cap to the Uraflex[®] tube results in a closed-end stripper with maximum bond strength, impact resistance and load-bearing capacity with minimum expansion. The hard nylon end cap assures better guidance in its "custom-fitted" guide hole and resists metal pick-up or abrasion over long periods of use.

Resilient, Non-Compressing

Under pressure, Uraflex[®] tubes flow and displace, dampening the shock. When the pressure is released the "Miracle" Uraflex[®], with its excellent memory qualities, returns to its original shape.

This excellent resilience without brittleness provides for ex-

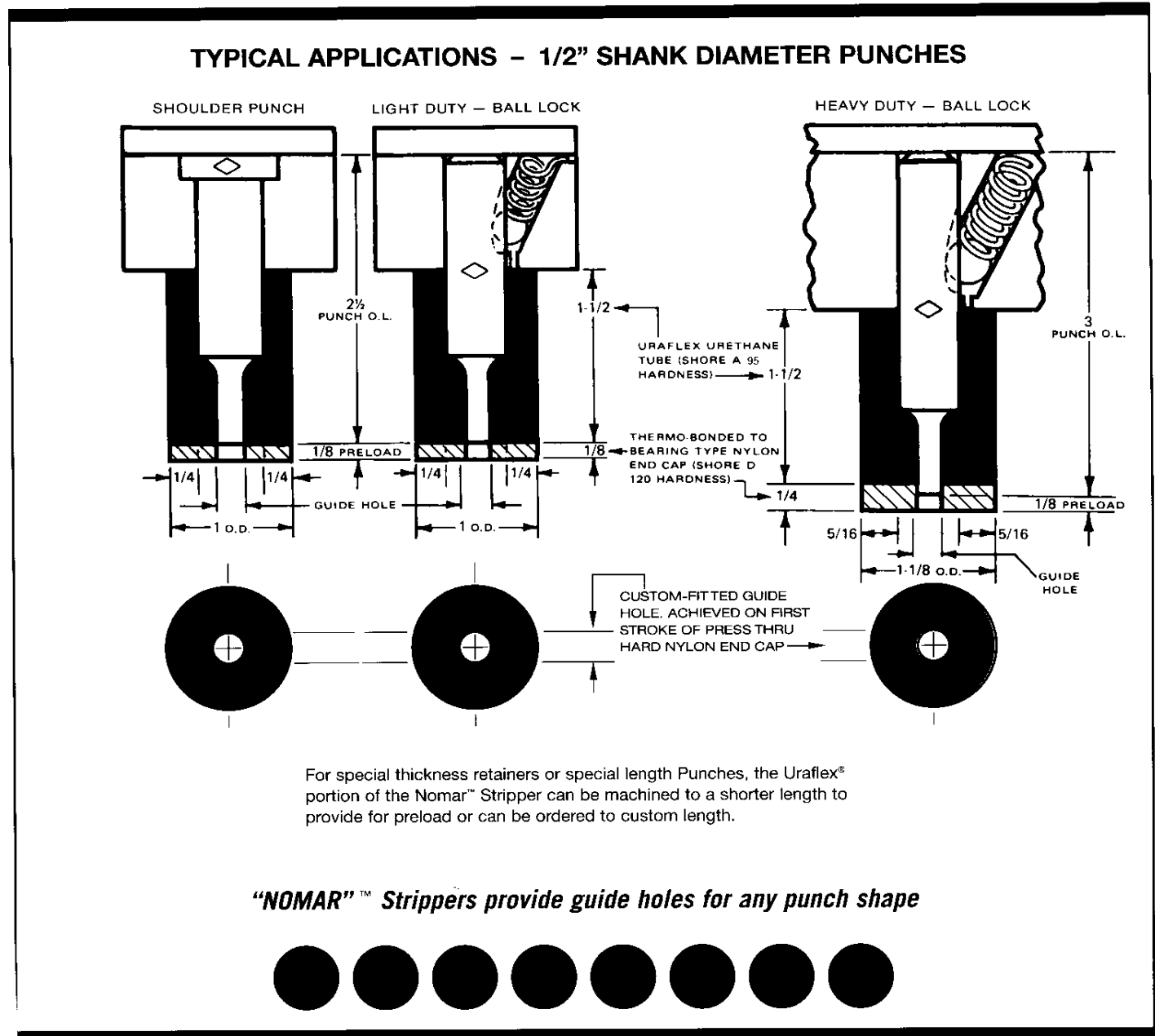
tensive and constantly repetitive deformation without deterioration and offers many times the wear life of rubber strippers.

Uraflex[®], being a synthetic elastomer, develops a permanent deflection of 4% to 5% of its overall stroke height after several thousand cycles. This set then remains constant thru the life of the item.

Easy to Install,-Practical

Just Push the Nomar[™] Stripper over any cylindrically ground, straight-ground or whipsleeved shoulder or ball lock punch. The first stroke of the press (without material stock) pierces a custom-fitted guide hole in the hard nylon end cap. The end cap provides a 1/8" preload when used with standard ball lock punches and retainers.

Nomar[™] Strippers prevent marring, denting, scratching or gouging painted, galvanized or soft metal surfaces and are available in a wide selection of sizes.



PIVOT NOMAR[™] URAFLEX[®] NYLON STRIPPERS

Pivot Nomar[™] Strippers provide a completely closed end stripper which can be pierced or machined to match any punch shape. The nylon bearing material end cap offers a harder wear surface than the urethane body while retaining the advantages of its non-marring characteristics.

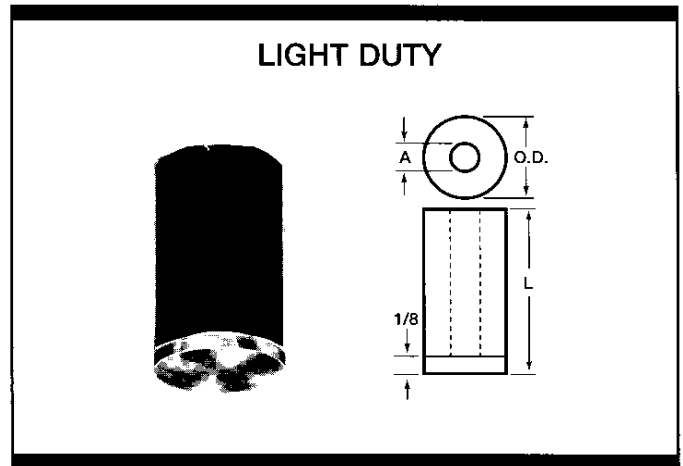
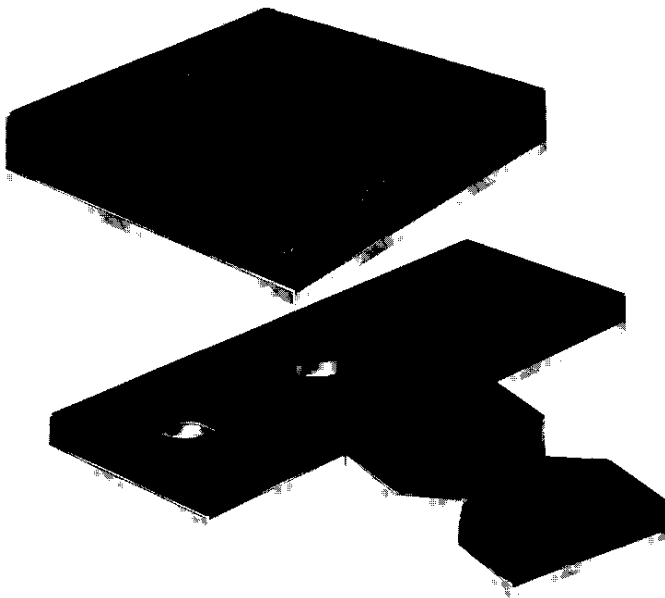
NOMAR[™] URAFLEX[®] NYLON STRIPPERS provide a built-in press fit for all types of standard punch shanks.

Light Duty Nomar[™] Strippers are recommended for stock up to 1/8" thick. Heavy Duty NOMAR[™] Strippers are for greater stripping and holding for stock to 1/4" thick. Extra Heavy Duty Nomar[™] Strippers are for the ultimate in holding and stripping pressures and for stock thicknesses as great as 1/2" thick. See deflection chart for stripping pressures required and proper selection for maximum stripping power when tough to work materials are used.

Special Nomar[®] Strippers-any size, any shape or thickness

Uraflex[®] and Nomar[™] Nylon are available in various sizes, thicknesses and durometers including a variety of OD's and ID's. They can be thermo-bonded to almost any configuration or combination by our experienced custom finishing department.

Send prints for price and delivery.



CATALOG NUMBER	FITS PUNCH SHANK (A)	OUT-SIDE DIA. (O.D.)	LENGTH (L)	PRICE EACH	LOAD POUNDS REQUIRED TO DEFLECT**		
					1/8"	1/4"	3/8"
LN18	3/16	11/16	1-3/8	5.15	220	330	N.R.
	3/16	11/16	1-5/8	5.88	220	295	360
LN25	1/4	3/4	1-3/8	5.15	250	375	N.R.
	1/4	3/4	1-5/8	5.88	230	385	410
	1/4	3/4	1-7/8	6.83	210	305	385
LN31	5/16	13/16	1-3/8	5.15	280	425	N.R.
	5/16	13/16	1-5/8	5.88	255	380	460
	5/16	13/16	1-7/8	6.83	235	345	435
LN37	3/8	7/8	1-3/8	5.67	315	470	N.R.
	3/8	7/8	1-5/8	6.51	285	420	510
	3/8	7/8	1-7/8	7.25	260	385	480
LN50	1/2	1	1-3/8	5.88	375	565	N.R.
	1/2	1	1-5/8	6.72	340	505	615
	1/2	1	1-7/8	7.35	310	460	575
LN62	5/8	1-1/8	1-3/8	5.88	440	660	N.R.
	5/8	1-1/8	1-5/8	6.72	400	590	715
	5/8	1-1/8	1-7/8	7.35	365	535	675
LN75	3/4	1-3/8	1-5/8	8.72	605	890	1085
	3/4	1-3/8	1-7/8	9.56	555	815	1020
	3/4	1-3/8	2-1/8	10.34	525	755	960
LN87	7/8	1-5/8	1-5/8	10.66	855	1260	1530
	7/8	1-5/8	1-7/8	10.92	780	1150	1445
	7/8	1-5/8	2-1/8	12.34	745	1065	1355
LN100	1	1-3/4	1-5/8	11.03	940	1385	1685
	1	1-3/4	1-7/8	11.81	860	1265	1590
	1	1-3/4	2-1/8	12.92	820	1175	1490
LN75	3/4	1-3/8	2-3/8	11.24	495	705	890
	3/4	1-3/8	2-5/8	11.56	475	665	835
	3/4	1-3/8	2-7/8	11.87	435	630	790
LN87	7/8	1-5/8	3-1/8	12.23	390	605	755
	7/8	1-5/8	2-3/8	13.13	700	995	1260
	7/8	1-5/8	2-5/8	13.60	670	940	1180
LN100	1	1-3/4	2-7/8	14.44	610	890	1010
	1	1-3/4	3-1/8	15.23	550	800	1065
	1	1-3/4	3-1/8	15.70	605	940	1175

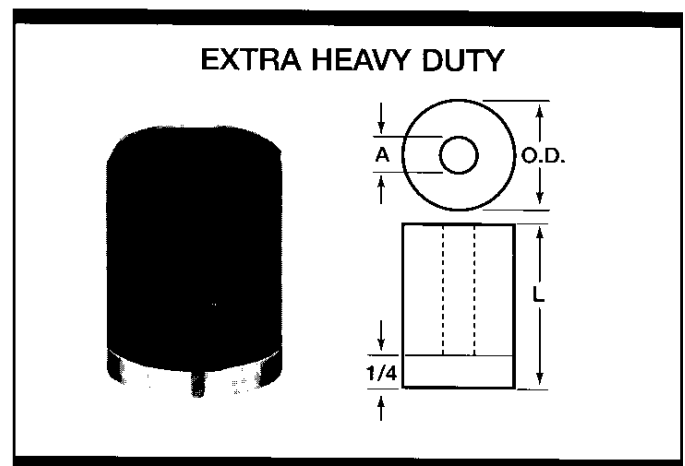
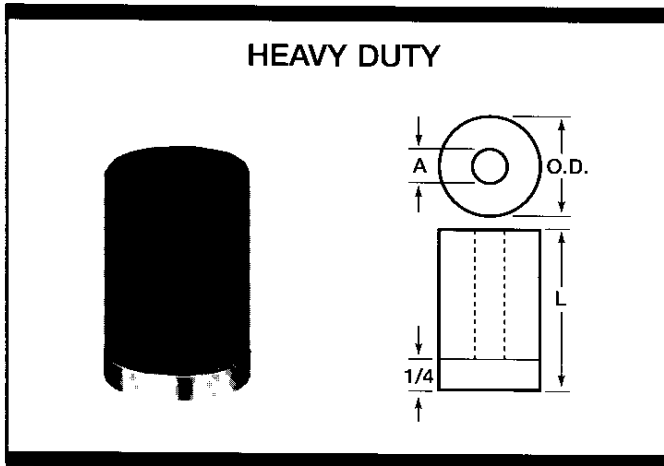
Custom Strippers are bounded only by the limits of imaginative engineering. Pivot Nomar[™] Uraflex[®] is available in almost any length, width or thickness with durometer ranges from 60A to 75D. Design suggestions for custom strippers may be found on page 12.

Uraflex[®] or Nomar[™] Nylon faces are mounted on steel stripper plates for lower noise level plus non-marring protection.

WHEN ORDERING PLEASE SPECIFY:

1. QUANTITY
 2. CATALOG NUMBER* 3. AND LENGTH
- LIGHT DUTY EXAMPLE: 5(QANTITY)-LN62 1-7/8
 HEAVY DUTY EXAMPLE: 8(QANTITY)-HN75 2
 EXTRA HEAVY DUTY EXAMPLE: 6(QANTITY)-XHN87 1-3/4

Available in Light Duty, Heavy Duty and Extra-Heavy Duty Types



CATALOG NUMBER	FITS PUNCH SHANK (A)	OUT-SIDE DIA. (O.D.)	LENGTH (L)	PRICE EACH	LOAD POUNDS REQUIRED TO DEFLECT**		
					1/8"	1/4"	3/8"
HN50	1/2	1-1/8	1-1/4	7.46	580	830	N.R.
	1/2	1-1/8	1-1/2	7.46	510	765	N.R.
	1/2	1-1/8	1-3/4	7.46	465	680	830
	1/2	1-1/8	2	8.40	425	620	780
HN62	5/8	1-1/4	1-1/4	7.61	665	955	N.R.
	5/8	1-1/4	1-1/2	7.61	585	885	N.R.
	5/8	1-1/4	1-3/4	7.61	535	785	955
	5/8	1-1/4	2	8.51	490	720	900
HN75	3/4	1-1/2	1-1/2	9.56	855	1265	1085
	3/4	1-1/2	1-3/4	9.56	770	1135	1380
	3/4	1-1/2	2	11.39	700	1035	1300
	3/4	1-1/2	2-1/4	12.29	670	960	1220
HN87	7/8	1-3/4	1-1/2	11.76	1165	1725	N.R.
	7/8	1-3/4	1-3/4	11.76	1045	1540	1875
	7/8	1-3/4	2	11.76	955	1405	1770
	7/8	1-3/4	2-1/4	13.86	910	1310	1660
HN100	1	2	1-1/2	12.65	1520	N.R.	N.R.
	1	2	1-3/4	12.65	1365	N.R.	N.R.
	1	2	2	14.54	1450	1840	N.R.
	1	2	2-1/4	15.44	1190	1710	N.R.
HN125	1	2	2-1/2	17.27	1120	1590	N.R.
	1	2	2-3/4	18.32	1070	1500	1890
	1	2	3	19.37	980	1425	1780

CATALOG NUMBER	FITS PUNCH SHANK (A)	OUT-SIDE DIA. (O.D.)	LENGTH (L)	PRICE EACH	LOAD POUNDS REQUIRED TO DEFLECT**		
					1/8"	1/4"	3/8"
XHN50	1/2	1-1/4	1-1/4	8.61	750	1070	N.R.
	1/2	1-1/4	1-1/2	8.61	655	990	N.R.
	1/2	1-1/4	1-3/4	8.61	600	880	1070
	1/2	1-1/4	2	9.71	545	805	1010
XHN62	5/8	1-1/2	1-1/4	8.82	1210	1735	N.R.
	5/8	1-1/2	1-1/2	8.82	1065	1600	N.R.
	5/8	1-1/2	1-3/4	8.82	970	1425	1735
	5/8	1-1/2	2	9.77	885	1300	1635
XHN75	3/4	1-1/2	1-1/2	10.71	845	1210	1535
	3/4	1-3/4	1-1/2	11.13	1265	1875	N.R.
	3/4	1-3/4	1-3/4	11.13	1140	1680	2045
	3/4	1-3/4	2	11.13	1040	1530	1925
XHN87	3/4	1-3/4	2-1/4	12.86	990	1425	1805
	3/4	1-3/4	2-1/2	14.33	935	1325	1680
	3/4	1-3/4	2-3/4	15.38	895	1250	1575
	3/4	1-3/4	3	16.43	815	1190	1485
XHN100	7/8	2	1-1/2	12.92	1640	N.R.	N.R.
	7/8	2	1-3/4	12.92	1475	N.R.	N.R.
	7/8	2	2	12.92	1345	1980	N.R.
	7/8	2	2-1/4	15.23	1285	1840	N.R.
XHN125	7/8	2	2-1/2	16.07	1205	1715	N.R.
	7/8	2	2-3/4	17.75	1155	1620	2035
	7/8	2	3	18.80	1055	1535	1920
	1	2-1/4	1-1/2	14.65	2060	N.R.	N.R.
XHN150	1	2-1/4	1-3/4	14.65	1850	N.R.	N.R.
	1	2-1/4	2	15.96	1690	2490	N.R.
	1	2-1/4	2-1/4	16.96	1610	2315	N.R.
	1	2-1/4	2-1/2	18.95	1515	2155	N.R.
XHN175	1	2-1/4	2-3/4	20.00	1450	2030	2560
	1	2-1/4	3	21.05	1325	1930	2410
	1-1/4	2-1/2	2	17.54	1950	2870	N.R.
	1-1/4	2-1/2	2-1/4	18.64	1860	2670	N.R.
XHN200	1-1/4	2-1/2	2-1/2	20.84	1750	2485	N.R.
	1-1/4	2-1/2	2-3/4	22.00	1675	2345	2955
	1-1/4	2-1/2	3	23.15	1530	2225	2780
	1-1/2	2-3/4	2	19.48	2210	3255	N.R.
XHN225	1-1/2	2-3/4	2-1/4	20.74	2105	3025	N.R.
	1-1/2	2-3/4	2-1/2	22.89	1980	2816	N.R.
	1-1/2	2-3/4	2-3/4	24.15	1900	2660	3345
	1-1/2	2-3/4	3	25.46	1730	2525	3150

ALL CATALOG - NOMAR STRIPPERS PAGES 4 & 5 AND URAFLEX SPRINGS PAGES 7, 8 & 9 ARE SUPPLIED IN U9520 WHICH IS 95 SHORE A DUROMETER. OTHER DUROMETERS AVAILABLE, PRICES ON REQUEST. SEE PHYSICAL PROPERTIES CHART PAGE 2.

NOTE: Since Pivot Nomar™ Strippers are noncompressible, their diameter at the mid-section will expand in direct proportion to the percentage of deflection. For example, if a HN 62-2 stripper is deflected 10% (.200") its diameter at the midsection will be increased by 10% from 1.250" to 1.375". Allowance for this expansion must be made in order to prevent punch distortion or breakage.

NOTE: All values in this publication are based on tests as free standing cylinders or sections with ends unattached. Confinement of any portion of the diameter or periphery, or bonding of ends to restrict lateral movement will substantially increase these values. Conversely, lubrication of ends will assist lateral movement, and will tend to reduce these values.

PIVOT URAFLEX® SPRINGS

PIVOT URAFLEX® SPRINGS may be used for dies, strippers, shedders and a variety of mechanical spring and vibration dampening applications.

PIVOT URAFLEX® SPRINGS will yield much greater pressures for a given deflection than comparably sized steel coil spring. Because of this, PIVOT URAFLEX® SPRINGS are an excellent replacement for steel coil springs where high pressures are desired or in situations involving space limitations.

PIVOT URAFLEX® SPRINGS are easy to install or replace. Springs provide a built in press fit for all standard punches or dowel pins. They will not mar material, and if fractured they do not pose a hazard to operator or equipment. They are also much quieter in operation than conventional steel coil springs.

Since URAFLEX® SPRINGS are non-compressible, their diameter at the midsection will expand in direct proportion to the percentage of deflection. For example, if a 2" long x 1" O.D. spring is deflected 20% (.400") its diameter at the midsection will be increased by 20% to 1.200". It is important to allow for this expansion in design.

Heat buildup can lead to the premature breakdown of URAFLEX® SPRINGS. Higher percentages of deflection and faster operating speeds will yield greater heat buildup. Heat buildup should not be allowed to occur to the point where the spring is uncomfortably hot to the touch. For optimum spring life, the following operating speeds and deflection are recommended for 95A durometer URAFLEX® SPRINGS:

200 strokes per hour or less - up to 25% deflection

700 strokes per hour or less - up to 20% deflection

12,000 strokes per hour or less - up to 15% deflection

However, springs with outside diameters of 2" or greater should never be deflected more than 15%.

NOTE: All values in this publication are based on tests as free standing cylinders or sections with ends unattached. Confinement of any portion of the diameter or periphery, or bonding of ends to restrict lateral movement will substantially increase these values. Conversely, lubrication of ends will assist lateral movement, and will tend to reduce these values.

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2. CATALOG NUMBER*
3. AND LENGTH

LIGHT DUTY EXAMPLE: 6(QUANTITY)-LU37 1-5/8

HEAVY DUTY EXAMPLE: 4(QUANTITY)-HU752-1/4

EXTRA HEAVY DUTY EXAMPLE: 8(QUANTITY)-XHU87 1-3/4

Light Duty Uraflex® Springs

95A DUROMETER



LU SERIES

OUTSIDE DIA. (O.D.)	FITS PUNCH SHANK (A)	LENGTH (L)	CATALOG NUMBER	LOAD LBS. REQD. TO DEFLECT			LOAD POUNDS REQUIRED TO DEFLECT										PRICE EACH	
				1/8"	1/4"	3/8"	5%		10%		15%		20%		25%			
							LOAD LBS.	LENGTH OF DEFL.	LOAD LBS.	LENGTH OF DEFL.	LOAD LBS.	LENGTH OF DEFL.	LOAD LBS.	LENGTH OF DEFL.	LOAD LBS.	LENGTH OF DEFL.		
11/16	3/16	1-1/4	LU18 x 1-1/4	220	330	N.R.	155	.0625	220	.1250	275	.1875	330	.2500	355	.3125	3.22	
		1-1/2	LU18 x 1-1/2	200	295	360		.0750		.1500		.2250		.3000		.3750		3.45
		12-1/2	LU18 x 12-1/2															
3/4	1/4	1-1/4	LU25 x 1-1/4	250	375	N.R.	180	.0625	250	.1250	315	.1875	375	.2500	410	.3125	3.22	
		1-1/2	LU25 x 1-1/2	230	335	410		.0750		.1500		.2250		.3000		.3750		3.45
		1-3/4	LU25 x 1-3/4	210	305	385		.0875		.1750		.2625		.3500		.4375		3.78
		2	LU25 x 2	200	285	360		.1000		.2000		.3000		.4000		.5000		4.01
		12-1/2	LU25 x 12-1/2														18.41	
13/16	5/16	1-1/4	LU31 x 1-1/4	280	425	N.R.	200	.0625	280	.1250	355	.1875	425	.2500	460	.3125	3.35	
		1-1/2	LU31 x 1-1/2	255	380	460		.0750		.1500		.2250		.3000		.3750		3.64
		1-3/4	LU31 x 1-3/4	235	345	435		.0875		.1750		.2625		.3500		.4375		3.95
		2	LU31 x 2	225	320	405		.1000		.2000		.3000		.4000		.5000		4.25
		12-1/2	LU31 x 12-1/2															
7/8	3/8	1-1/4	LU37 x 1-1/4	315	470	N.R.	225	.0625	315	.1250	395	.1875	470	.2500	510	.3125	3.53	
		1-1/2	LU37 x 1-1/2	285	420	510		.0750		.1500		.2250		.3000		.3750		3.78
		1-3/4	LU37 x 1-3/4	260	385	480		.0875		.1750		.2625		.3500		.4375		4.07
		2	LU37 x 2	250	355	450		.1000		.2000		.3000		.4000		.5000		4.50
		12-1/2	LU37 x 12-1/2														22.05	
1	1/2	1-1/4	LU50 x 1-1/4	375	565	N.R.	270	.0625	375	.1250	470	.1875	565	.2500	615	.3125	3.78	
		1-1/2	LU50 x 1-1/2	340	505	615		.0875		.1500		.2250		.3000		.3750		4.07
		1-3/4	LU50 x 1-3/4	295	425	540		.1000		.1750		.2625		.3500		.4375		4.50
		2	LU50 x 2	280	400	505		.1125		.2000		.3000		.4000		.5000		4.80
		2-1/4	LU50 x 2-1/4							.2250		.3375		.4500		.5625		5.40
		12-1/2	LU50 x 12-1/2														25.26	
1-1/8	5/8	1-1/4	LU62 x 1-1/4	440	660	N.R.	315	.0625	440	.1250	550	.1875	660	.2500	715	.3125	3.95	
		1-1/2	LU62 x 1-1/2	400	590	715		.0750		.1500		.2250		.3000		.3750		4.25
		1-3/4	LU62 x 1-3/4	365	535	675		.0875		.1750		.2625		.3500		.4375		4.67
		2	LU62 x 2	345	500	630		.1000		.2000		.3000		.4000		.5000		4.99
		2-1/4	LU62 x 2-1/4	325	465	590		.1125		.2250		.3375		.4500		.5625		5.59
		12-1/2	LU62 x 12-1/2														28.12	
1-3/8	3/4	1-1/2	LU75 x 1-1/2	605	890	1085	475	.0750	665	.1500	835	.2250	1000	.3000	1085	.3750	5.16	
		1-3/4	LU75 x 1-3/4	555	815	1020		.0875		.1750		.2625		.3500		.4375		5.59
		2	LU75 x 2	525	815	1020		.1000		.2000		.3000		.4000		.5000		5.89
		2-1/4	LU75 x 2-1/4	495	705	890		.1125		.2250		.3375		.4500		.5625		6.50
		2-1/2	LU75 x 2-1/2	475	665	835		.1250		.2500		.3750		.5000		.6250		6.86
		2-3/4	LU75 x 2-3/4	435	630	790		.1375		.2750		.4125		.5500		.6875		7.65
		3	LU75 x 3	390	605	755		.1500		.3000		.4500		.6000		.7500		8.25
		12-1/2	LU75 x 12-1/2														31.55	
1-5/8	7/8	1-1/2	LU87 x 1-1/2	855	1260	1530	670	.0750	940	.1500	1180	.2250	1410	.3000	1530	.3750	6.01	
		1-3/4	LU87 x 1-3/4	780	1150	1445		.0875		.1750		.2625		.3500		.4375		6.37
		2	LU87 x 2	745	1065	1355		.1000		.2000		.3000		.4000		.5000		6.62
		2-1/4	LU87 x 2-1/4	700	995	1260		.1125		.2250		.3375		.4500		.5625		7.29
		2-1/2	LU87 x 2-1/2	670	940	1180		.1250		.2500		.3750		.5000		.6250		7.83
		2-3/4	LU87 x 2-3/4	610	890	1110		.1375		.2750		.4125		.5500		.6875		8.51
		3	LU87 x 3	550	855	1065		.1500		.3000		.4500		.6000		.7500		9.11
		12-1/2	LU87 x 12-1/2														36.10	
1-3/4	1	1-1/2	LU100 x 1-1/2	940	1385	1680	735	.0750	1030	.1500	1300	.2250	1555	.3000	1685	.3750	6.75	
		1-3/4	LU100 x 1-3/4	860	1265	1590		.0875		.1750		.2625		.3500		.4375		7.23
		2	LU100 x 2	820	1175	1490		.1000		.2000		.3000		.4000		.5000		7.96
		2-1/4	LU100 x 2-1/4	770	1095	1385		.1250		.2250		.3375		.4500		.5625		8.07
		2-1/2	LU100 x 2-1/2	735	1030	1300		.1250		.2500		.3750		.5000		.6250		8.63
		2-3/4	LU100 x 2-3/4	670	980	1225		.1375		.2750		.4125		.5500		.6875		9.29
		3	LU100 x 3	605	940	1175		.1500		.3000		.4500		.6000		.7500		9.95
		12-1/2	LU100 x 12-1/2														37.98	

N.R. = NOT RECOMMENDED

Heavy Duty Uraflex® Springs

95A DUROMETER



HU SERIES

OUTSIDE DIA. (O.D.)	FITS PUNCH SHANK (A)	LENGTH (L)	CATALOG NUMBER	LOAD LBS. REQD. TO DEFLECT			LOAD POUNDS REQUIRED TO DEFLECT										PRICE EACH	
				1/8"	1/4"	3/8"	5%		10%		15%		20%		25%			
							LOAD LBS.	LENGTH OF DEFL.	LOAD LBS.	LENGTH OF DEFL.	LOAD LBS.	LENGTH OF DEFL.	LOAD LBS.	LENGTH OF DEFL.	LOAD LBS.	LENGTH OF DEFL.		
1-1/8	1/2	1-1/4	HU50 X 1-1/4	510	765	N.R.	365	.0625	510	.1250	640	.1875	765	.2500	830	.3125	3.95	
		1-1/2	HU50 X 1-1/2	465	680	830		.0750		.1500		.2250		.3000		.3750		4.19
		1-3/4	HU50 X 1-3/4	425	620	780		.0875		.1750		.2625		.3500		.4375		4.67
		2	HU50 X 2	405	580	735		.1000		.2000		.3000		.4000		.5000		4.92
		2-1/4	HU50 X 2-1/4	380	540	680		.1125		.2250		.3375		.4500		.5625		5.53
		12-1/2	HU50 X 12-1/2															
1-1/4	5/8	1-1/4	HU62 X 1-1/4	585	885	N.R.	420	.0625	585	.1250	740	.1875	885	.2500	955	.3125	4.13	
		1-1/2	HU62 X 1-1/2	535	785	955		.0750		.1500		.2250		.3000		.3750		4.38
		1-3/4	HU62 X 1-3/4	490	720	900		.0875		.1750		.2625		.3500		.4375		4.80
		2	HU62 X 2	464	665	845		.1000		.2000		.3000		.4000		.5000		5.10
		2-1/4	HU62 X 2-1/4	435	620	785		.1125		.2250		.3375		.4500		.5625		5.78
		12-1/2	HU62 X 12-1/2															
1-1/2	3/4	1-1/2	HU75 X 1-1/2	770	1135	1380	605	.0750	845	.1500	1065	.2250	1270	.3000	1380	.3750	5.28	
		1-3/4	HU75 X 1-3/4	700	1035	1300		.0875		.1750		.2625		.3500		.4375		5.65
		2	HU75 X 2	670	960	1220		.1000		.2000		.3000		.4000		.5000		6.01
		2-1/4	HU75 X 2-1/4	630	895	1135		.1125		.2250		.3375		.4500		.5625		6.62
		2-1/2	HU75 X 2-1/2	605	845	1065		.1250		.2500		.3750		.5000		.6250		7.17
		2-3/4	HU75 X 2-3/4	550	800	1000		.1375		.2750		.4125		.5500		.6875		7.83
		3	HU75 X 3	495	770	960		.1500		.3000		.4500		.6000		.7500		8.51
		12-1/2	HU75 X 12-1/2															
1-3/4	7/8	1-1/2	HU87 X 1-1/2	1045	1540	1875	820	.0750	1150	.1500	1445	.2250	1730	.3000	1875	.3750	6.37	
		1-3/4	HU87 X 1-3/4	955	1405	1770		.0875		.1750		.2625		.3500		.4375		6.62
		2	HU87 X 2	910	1310	1660		.1000		.2000		.3000		.4000		.5000		6.86
		2-1/4	HU87 X 2-1/4	855	1220	1540		.1125		.2250		.3375		.4500		.5625		7.48
		2-1/2	HU87 X 2-1/2	820	1150	1445		.1250		.2500		.3750		.5000		.6250		8.02
		2-3/4	HU87 X 2-3/4	750	1090	1360		.1375		.2750		.4125		.5500		.6875		8.75
		3	HU87 X 3	675	1045	1310		.1500		.3000		.4500		.6000		.7500		9.41
		12-1/2	HU87 X 12-1/2															
2	1	1-1/2	HU100 X 1-1/2	1365	N.R.	N.R.	1070	.0750	1500	.1500	1890	.2250	N.R.	.3000	N.R.	.3750	7.41	
		1-3/4	HU100 X 1-3/4	1450	1840	N.R.		.0875		.1750		.2625		.3500		.4375		7.53
		2	HU100 X 2	1190	1710	N.R.		.1000		.2000		.3000		.4000		.5000		8.25
		2-1/4	HU100 X 2-1/4	1120	1590	N.R.		.1125		.2250		.3375		.4500		.5625		8.93
		2-1/2	HU100 X 2-1/2	1070	1500	1890		.1250		.2500		.3750		.5000		.6250		9.18
		2-3/4	HU100 X 2-3/4	980	1425	1780		.1375		.2750		.4125		.5500		.6875		9.90
		3	HU100 X 3	885	1365	1710		.1500		.3000		.4500		.6000		.7500		10.38
		12-1/2	HU100 X 12-1/2															

N.R.= NOT RECOMMENDED

NOTE: All values in this publication are based on tests as free standing cylinders or sections with ends unattached. Confinement of any portion of the diameter or periphery, or bonding of ends to restrict lateral movement will substantially increase these values. Conversely, lubrication of ends will assist lateral movement, and will tend to reduce these values.

WHEN ORDERING PLEASE SPECIFY:

1. QUANTITY
2. CATALOG NUMBER*
3. AND LENGTH

LIGHT DUTY EXAMPLE: 6(QUANTITY)-LU37 1-5/8

HEAVY DUTY EXAMPLE: 4(QUANTITY)-HU752-1/4

EXTRA HEAVY DUTY EXAMPLE: 8(QUANTITY)-XHU87 1-3/4

Extra-Heavy Duty Uraflex® Springs

95A DUROMETER



XHU SERIES

OUTSIDE DIA. (O.D.)	FITS PUNCH SHANK (A)	LENGTH (L)	CATALOG NUMBER	LOAD LBS. REQD. TO DEFLECT			LOAD POUNDS REQUIRED TO DEFLECT										PRICE EACH				
				1/8"	1/4"	3/8"	5%		10%		15%		20%		25%						
							LOAD LBS.	LENGTH OF DEFL.	LOAD LBS.	LENGTH OF DEFL.	LOAD LBS.	LENGTH OF DEFL.	LOAD LBS.	LENGTH OF DEFL.	LOAD LBS.	LENGTH OF DEFL.					
1-1/4	1/2	1-1/4	XHU50 X 1-1/4	655	990	N.R.	470	.0625	655	.1250	825	.1875	990	.2500	1070	.3125	4.43				
		1-1/2	XHU50 X 1-1/2	600	880	1070		.0750		.1500		.2250		.3000		.3750		4.80			
		1-3/4	XHU50 X 1-3/4	545	805	1010		.0875		.1750		.2625		.3500		.4375		5.05			
		2	XHU50 X 2	520	745	950		.1000		.2000		.3000		.4000		.5000		5.34			
		2-1/4	XHU50 X 2-1/4	490	695	880		.1125		.2250		.3375		.4500		.5625		6.08			
		12-1/2	XHU50 X 12-1/2																		
1-1/2	5/8	1-1/4	XHU62 X 1-1/4	1065	1600	N.R.	760	.0625	1063	.1250	1340	.1875	1600	.2500	1735	.3125	4.80				
		1-1/2	XHU62 X 1-1/2	970	1425	1735		.0750		.1500		.2250		.3000		.3750		5.10			
		1-3/4	XHU62 X 1-3/4	885	1300	1635		.0875		.1750		.2625		.3500		.4375		5.47			
		2	XHU62 X 2	845	1210	1535		.1000		.2000		.3000		.4000		.5000		5.95			
		2-1/4	XHU62 X 2-1/4	795	1125	1725		.1125		.2250		.3375		.4500		.5625		6.62			
		12-1/2	XHU62 X 12-1/2																		
1-3/4	3/4	1-1/2	XHU75 X 1-1/2	1140	1680	2045	895	.0750	1250	.1500	1575	.2250	1885	.3000	2045	.3750	6.50				
		1-3/4	XHU75 X 1-3/4	1040	1530	1925		.0875		.1750		.2625		.3500		.4375		6.62			
		2	XHU75 X 2	990	1425	1805		.1000		.2000		.3000		.4000		.5000		7.05			
		2-1/4	XHU75 X 2-1/4	935	1325	1680		.1125		.2250		.3375		.4500		.5625		7.77			
		2-1/2	XHU75 X 2-1/2	895	1250	1575		.1250		.2500		.3750		.5000		.6250		8.07			
		2-3/4	XHU75 X 2-3/4	815	1190	1485		.1375		.2750		.4125		.5500		.6875		8.51			
3	XHU75 X 3	735	1140	1425	.1500	.3000	.4500	.6000	.7500	9.11											
12-1/2	XHU75 X 12-1/2																38.12				
2	7/8	1-1/2	XHU87 X 1-1/2	1475	N.R.	N.R.	1155	.0750	1620	.1500	2035	.2250	N.R.	N.R.	N.R.	N.R.	N.R.	7.35			
		1-3/4	XHU87 X 1-3/4	1345	1980	N.R.		.0875		.1750		.2625							.3500	.4375	7.77
		2	XHU87 X 2	1285	1840	N.R.		.1000		.2000		.3000							.4000	.5000	8.20
		2-1/4	XHU87 X 2-1/4	1205	1715	N.R.		.1125		.2250		.3375							.4500	.5625	8.93
		2-1/2	XHU87 X 2-1/2	1155	1620	2035		.1250		.2500		.3750							.5000	.6250	9.18
		2-3/4	XHU87 X 2-3/4	1055	1535	1920		.1375		.2750		.4125							.5500	.6875	9.61
3	XHU87 X 3	955	1475	1840	.1500	.3000	.4500	.6000	.7500	10.08											
12-1/2	XHU87 X 12-1/2																54.61				
2-1/4	1	1-1/2	XHU100 X 1-1/2	1850	N.R.	N.R.	1450	.0750	2030	.1500	2560	.2250	N.R.	N.R.	N.R.	N.R.	N.R.	10.82			
		1-3/4	XHU100 X 1-3/4	1690	2490	N.R.		.0875		.1750		.2625							.3500	.4375	11.22
		2	XHU100 X 2	1610	2315	N.R.		.1000		.2000		.3000							.4000	.5000	11.66
		2-1/4	XHU100 X 2-1/4	1515	2155	N.R.		.1250		.2250		.3375							.4500	.5625	12.38
		2-1/2	XHU100 X 2-1/2	1450	2030	2560		.1250		.2500		.3750							.5000	.6250	12.63
		2-3/4	XHU100 X 2-3/4	1325	1930	2410		.1375		.2750		.4125							.5500	.6875	16.21
3	XHU100 X 3	1195	1850	2315	.1500	.3000	.4500	.6000	.7500	18.95											
12-1/2	XHU100 X 12-1/2																69.05				
2-1/2	1-1/4	2	XHU125 X 2	1860	2670	N.R.	1675	.1000	2345	.2000	3095	.3000	N.R.	N.R.	N.R.	N.R.	N.R.	13.13			
		2-1/4	XHU125 X 2-1/4	1750	2485	N.R.		.1125		.2250		.3375							.4500	.5625	13.85
		2-1/2	XHU125 X 2-1/2	1675	2345	2955		.1250		.2500		.3750							.5000	.6250	14.08
		2-3/4	XHU125 X 2-3/4	1530	2225	2780		.1375		.2750		.4125							.5500	.6875	17.68
		3	XHU125 X 3	1380	2135	2670		.1500		.3000		.4500							.6000	.7500	20.40
		12-1/2	XHU125 X 12-1/2																		
2-3/4	1-1/2	2	XHU150 X 2	2105	3025	N.R.	1900	.1000	2660	.2000	3345	.3000	N.R.	N.R.	N.R.	N.R.	N.R.	14.28			
		2-1/4	XHU150 X 2-1/4	1980	2816	N.R.		.1125		.2250		.3375							.4500	.5625	15.00
		2-1/2	XHU150 X 2-1/2	1900	2660	3345		.1250		.2500		.3750							.5000	.6250	15.25
		2-3/4	XHU150 X 2-3/4	1730	2525	3150		.1375		.2750		.4125							.5500	.6875	18.84
		3	XHU150 X 3	1565	2420	3025		.1500		.3000		.4500							.6000	.7500	21.56
		12-1/2	XHU150 X 12-1/2																		

N.R. = NOT RECOMMENDED

Engineering Data - 90A URAFLEX

PIVOT URAFLEX® 90A bars, slabs, sheet and rods:

L = Length W = Width r = radius h = height d = diameter

1) Find Area (A)

- a) for solid rectangles or squares $A = L \times W$
- b) for solid rounds $A = 3.1416 \times r^2$

2) Find shape factor (S.F.) $L \times W$

- a) for solid sheets, slabs or bars $S.F. = \frac{L \times W}{2h(L + W)}$
- b) for solid rods $S.F. = \frac{d}{4h}$

3) Find p.s.i. or deflection from graph

- a) interpolate for in between shape factors
- b) for shape factors less than 0.5 use 0.5 line

4) Convert p.s.i. to load pounds

- a) load pounds = p.s.i. x area
- b) this is total force required to deflect a given distance

5) Example: How much pressure will be required to deflect a 6" x 6" x 1" slab by .150"?

- $A = 6 \times 6 = 36$ — Since .150 is 15% of 1", find 115% on graph below
- $S.F. = \frac{6 \times 6}{2(1)(6+6)} = 1.5$ — Since 1.5 shape factor is half way between 1.0 and 2.0 lines on the graph the p.s.i. value for 15% is 1220.
- Multiply p.s.i. times area to get load pounds = 43,920

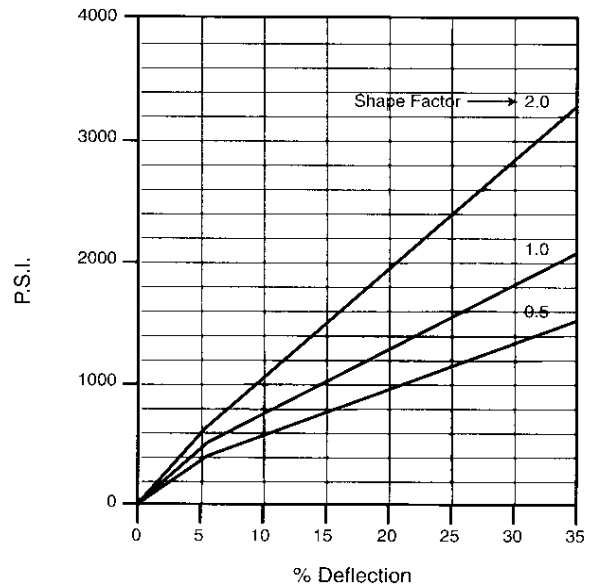
Load lbs. = 1220 x 36 = 43,920 — Multiply p.s.i. times area to get load pounds = 43,920

URAFLEX® SHEET, SLAB, BAR, ROD SAMPLE PRESSURES
90A DUROMETER

SIZE	Load Pounds Required to Deflect		
	1/8"	1/4"	3/8"
1/4" dia x 1/2" height	55	N.R.	N.R.
3/8" dia x 3/4" height	90	165	N.R.
1/2" dia x 1" height	125	225	N.R.
5/8" dia x 1 1/4" height	165	290	455
3/4" dia x 1 1/2" height	210	360	510
7/8" dia x 1 3/4" height	245	425	600
1" dia x 2" height	300	505	705
1-1/8" dia x 2 1/4" height	350	585	795
1-1/4" dia x 2-1/2" height	380	665	910
1-1/2" dia x 3" height	510	815	1130
2" dia x 3" height	910	1445	2010
3" dia x 3" height	2050	3250	3620
4" dia x 3" height	3645	5780	7070
6" dia x 3" height	8200	13005	18095
1" wide x 12" long x 1" height	7560	12900	N.R.
2" wide x 2" long x 3" height	7200	11400	15000
2" wide x 12" long x 2" height	9600	15120	21600
6" wide x 12" long x 2" height	36500	61200	86400
6" wide x 6" long x 1" height	37800	70200	N.R.
12" wide x 12" long x 1-1/2" height	120960	230400	338400
18" wide x 18" long x 3" height	145800	270540	405000

N.R. = NOT RECOMMENDED

90A DUROMETER URAFLEX



For optimum life, the following operating speeds and deflections are recommended for 90A Durometer Uraflex~ bars, slabs, sheet and rods:
 Up to 200 strokes per hour - up to 25% deflection
 Up to 700 strokes per hour - up to 20% deflection
 Up to 12,000 strokes per hour - up to 15% deflection

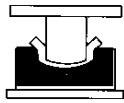
NOTE: All values in this publication are based on tests as free standing cylinders or sections with ends unattached. Confinement of any portion of the diameter or periphery, or bonding of ends to restrict lateral movement will substantially increase these values. Conversely, lubrication of ends will assist lateral movement, and will tend to reduce these values.

PIVOT SOLID URAFLEX® Sheets, Slabs, Bars, and Rods

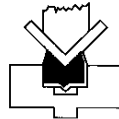
Cataloged standard sizes in 90 Shore A Durometer, Uraflex® is available from stock for most all needs. With extreme load-bearing capacity and abrasion resistance, Uraflex also has excellent resilience and memory qualities and returns to its original shape with minimal deterioration under many extensive and repetitive deformations. It is unaffected by oil, grease and most chemicals and solvents.

PIVOT URAFLEX® offers more than 3 times the wear life characteristics of natural rubber. Will not mar, scratch, dent or gouge most painted, galvanized or soft metal surfaces. Ideal for pressure pads, forming blocks, stripping pads, draw dies, embossing dies, bulging punches, strippers, springs or shredders.

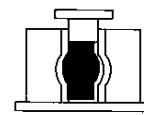
Pivot URAFLEX forms any angle, adapts to practically any shape and is easy to install for a wide range of metalworking and stamping operations.



URAFLEX® helps to eliminate wrinkles caused by drawing "in the air".



URAFLEX® produces better definition and sharper bends.



Mar-free tubular and even convolute forms can be bulged with long-lasting URAFLEX®.

URAFLEX SOLID SHEETS AND SLABS



WIDTH & LENGTH	THICKNESS AND PRICE PER PIECE														
	1/8"	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	6"	
6 x 6	6.44	12.58	19.08	25.26	30.61	36.56	49.19	55.57	66.50	82.16	101.83	119.15	142.34		
6 x 12	12.58	25.26	36.44	49.19	55.57	67.53	86.17	101.83	119.75	143.49	176.96	194.32	245.33		
6 X 18	19.08	37.96	55.74	66.50	85.02	88.36	119.75	142.34	164.26	195.53	252.05	291.48	367.99		
6 X 24	25.26	48.58	65.58	87.44	102.02	120.24	149.38	178.54	205.25	242.91	306.05	358.29	461.52		
12 X 12	25.26	48.58	65.58	87.44	102.02	120.24	149.38	178.54	205.25	242.91	306.05	358.29	461.52		
12 X 18	34.01	60.12	89.87	120.24	143.31	167.60	212.54	253.84	296.34	364.35	444.52	522.24	675.28		
12 X 24	48.58	80.35	119.03	143.31	178.54	202.83	253.84	307.27	364.35	450.59	574.47	657.05	856.23		
18 X 18	55.57	90.06	133.59	159.10	201.61	225.91	289.05	346.14	395.93	504.03	616.98	694.70	856.23		
18 X 24	71.66	119.15	157.89	212.54	253.84	292.70	358.29	446.94	518.61	542.89	772.43	925.46	1238.80		
24 X 24	97.16	142.34	212.54	248.98	308.48	358.29	461.52	576.90	655.84	862.30	1017.77	1238.80	1597.09		

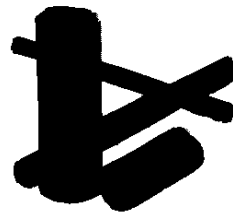
PRICES ON REQUEST

URAFLEX SOLID BARS



SIZE	LENGTH AND PRICE PER PIECE				
	6"	12"	24"	36"	48"
1 x 1	7.75	15.50	30.95	42.30	51.90
1 x 2	16.00	30.65	55.25	76.05	100.50
1 X 3	23.85	43.75	76.55	104.30	143.10
1 X 4	30.00	52.65	97.35	131.35	184.70
2 X 2	30.00	55.00	99.35	135.35	184.70
2 X 3	42.85	82.75	161.50	202.50	263.85
2 X 4	54.75	101.50	187.40	232.00	330.85
3 X 3	62.75	115.50	209.50	269.50	363.00
3 X 4	81.00	133.75	237.50	332.50	445.00
4 X 4	95.00	170.00	304.50	411.50	549.75

URAFLEX SOLID RODS



DIA. INCHES	LENGTH AND PRICE PER PIECE			
	3"	6"	12"	24"
1/4	3.15	6.15	10.80	
3/8	3.25	6.50	11.10	
1/2	3.00	5.60	10.65	21.10
5/8	3.25	5.95	11.10	22.05
3/4	3.50	6.25	12.15	24.10
7/8	3.80	7.15	13.60	26.75
1	4.40	8.15	15.70	30.80
1-1/8	4.75	9.15	17.60	34.70
1-1/4	5.50	10.50	21.00	41.00
1-1/2	7.50	14.80	29.15	56.35
2	11.00	21.50	42.00	80.00
2-1/2	13.95	27.50	55.00	99.25
3	18.75	39.00	78.00	148.00
4	31.75	63.50	127.00	242.00
6	72.25	144.50	283.00	546.00

WHEN ORDERING PLEASE SPECIFY:

1. QUANTITY
2. PIVOT URAFLEX
3. THICKNESS OR DIAMETER
4. LENGTH

Also available in U6040 — U8030 — U9520 — U7505. "Prices on Request." See Physical Properties chart page 2.

Also available: PIVOT NOMAR™ Nylon for custom in-plant manufacturing

The New Approach in Stripper Engineering

Facing new or existing steel strippers with wear resistant non-marring Nomar™ nylon will reduce noise level, protect most painted surfaces or soft materials, guide punch points, and minimize stock deformation by strip ping closer to the punch point. The inherent elasticity of Nomar™ Nylon assures superior holding power without marring or scratching. Custom guide holes can be machined or punched through the nylon face. It can be attached to steel with screws or it can be thermo-bonded to steel or Uraflex® with urabond adhesive.

	PRICE PER FOOT — STOCKED WIDTHS						
	1"	2"	3"	4"	6"	8"	10"
1/8"	2.48	4.40	5.55	7.52	8.85	—	—
1/4"	8.78	14.68	21.38	27.73	41.60	49.68	61.83

PIVOT Stripper Plate Design Suggestions

These are but a few design suggestions from the Pivot file of stripper plate fabrication experience. In addition to ease of fabrication these new designs offer the additional ad-

vantage lower stripper cost thru the elimination of the use of shaped stripper bushings.

PIVOT CUSTOM STRIPPERS CAN BE MADE IN THE FOLLOWING TYPES



OPEN END - URAFLEX



CLOSED END - URAFLEX/NOMAR



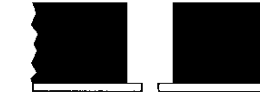
OPEN END - STEEL/URAFLEX



OPEN END - STEEL/NOMAR



CLOSED END - STEEL/URAFLEX



CLOSED END - STEEL/NOMAR

The high deflection pressures of Uraflex® easily strip even the most difficult pieces from the punch point.

Nomax™ Nylon with its "Cat's Paw" action holds firmly without marring or scratching during the piercing operation

Machining URAFLEX

The following is intended to be used as a guide line only. Razor sharp tools, high surface speeds, and light interrupted cuts are a prerequisite in machining Uraflex®.

MILLING — 2000 surface ft. per minute positive rake tools, soap water lubricant used profusely. Light interrupted cuts.

DRILLING™ High Speed. Keep drill and Uraflex® cool, with soap water or air blast short interrupted strokes. Very sharp drills 140 degree point recommended.

SAWING — 2-4 teeth per inch. Hook type tooth with raker set. Keep Uraflex cool with air blast.

MODERN FACILITIES

Pivot's modern main plant and home office, located near Lockport, New York, offers over 30,000 sq. ft. of manufacturing space exclusively devoted to the production of precision punches, piercing accessories and Uraflex® products.



pivot punch corporation

LOCKPORT, NEW YORK
6550 CAMPBELL BLVD.
LOCKPORT, N.Y. 14094
PHONE: (716) 625-8000
FAX: (800) 622-3227

CLEVELAND, OHIO
5121 WEST 161ST STREET
BROOK PARK, OHIO 44142
PHONE: (216) 362-1990
FAX: (216) 362-1993

TOLL FREE FAX: 1-800-622-3227

Relasco 3M 01/0