

October 2, 1973

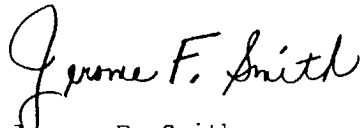
SUBJECT: TOP SCORING AD IN MAY 17 ISSUE
MACHINE DESIGN

TO THE BOARD OF DIRECTORS OF THE
LEAD INDUSTRIES ASSOCIATION, INC.:

We are proud of the rating obtained by our Newsletter ad in the May 17, 1973 issue of MACHINE DESIGN. Your Lead Industries Association ad was the highest scoring in the issue as rated by the "AD-GAGE" readership survey. This was a one-page, Black & White ad, and scored higher than several 1-and 2-page, four color ads.

A reproduction of the ad is shown on the next-to-last-page of the enclosed "AD-GAGE" survey, and a copy of the ad itself is attached.

Very truly yours,



Jerome F. Smith
Secretary & General Manager

JFS:lm
Enclosures

LIA05099

LEAD NEWSLETTER

FOR ORIGINAL EQUIPMENT DESIGNERS

More and more buyers of plant equipment are specifying that the equipment meet Occupational Safety and Health Act (OSHA) standards from the outset. To meet this requirement many design engineers and acoustical specialists are turning to lead. Lead provides maximum efficiency as a sound barrier because of its density, limpness, and impermeability.

The noise problem many designers have to combat is in the form of both sound and vibration. While sound is airborne, vibration is transmitted through a solid. Both are related. Also, sound can cause vibration and vice versa. Lead has a solution for both problems as demonstrated in these case histories.

Suppressing vibratory noise

Many types of machinery such as printing presses, air conditioners, compressors, and the like, where a heavy reciprocating load is present, create vibrations that, if not properly suppressed, will radiate to other areas of a building. Lead-asbestos or lead-polychloroprene anti-vibration pads



Panels can easily be installed by one man without the use of mechanical materials handling equipment

have been used successfully to solve this type of noise problem. These are usually made up of an envelope of 8-lb., 1/8-in. thick lead, enclosing one or two layers of 3/8-in. thick asbestos roll fire felt or single sheet of polychloroprene rubber. Some 150 lead asbestos pads were used to tame the vibration of a newspaper press recently installed in the metropolitan New York area. The machine feet rest on the pads and are retained within a box to prevent movement without short-circuiting the anti-vibration pads.

Suppressing airborne noise

Several materials are available to the designer for the attenuation of airborne noise: thin sheet lead, leaded plastic sheet, and composite lead foam sandwiches. The simplest way to reduce the noise generated by a piece of machinery is to enclose it.

One typical sound enclosure system consists of 1 1/2" thick lead/foam material; an extruded aluminum framing system; and flat aluminum sheets, in gages ranging from .049" to .062", for the exterior face of the panel. The lead acoustical foam material consists of two sheet lead septa, each weighing 1/2 lbs. psf (.0078" thick), that are sandwiched in acoustical foam. Selected because it meets UL-94 regulations for fire retardancy, the acoustical foam will not "dust out" or delaminate from the sheet lead like some other material. In addition, the lead/acoustical foam tends to be self-healing should workmen have to drill holes in the panel, e.g., for electrical conduit. The material encircles the cable and tends to seal potential openings through which sound could travel.

Designed to meet Occupational Safety and Health Act standards,



View of combination lead and acoustical foam material used in machinery noise control panels.

the machinery enclosures can achieve reductions of between 35 to 50 decibels (db), depending on how carefully the enclosure is installed and the original noise levels encountered. The enclosures can be custom-built to enclose any type of machinery regardless of size and configuration. Ports can be designed into the panel enclosures to permit stock input and output and, if needed, a specially designed door can be installed to permit operators to enter the enclosure. Standard-size panels are also available to facilitate do-it-yourself noise control machinery enclosures. The panels, available in standard 2' x 4', 2' x 8' and 4' x 4' sizes, are supplied with the aluminum extrusion framing to permit construction of the sides and roofs of machinery enclosures.

In many cases it is not possible to enclose the complete machine because it must be accessible to the operator. Here, it may be possible to shroud the gears and other noise producing elements and still have the work station accessible. If this is not possible, the entire unit can be isolated in a "room" or "tent" made from leaded vinyl plastic curtains.

For further information and technical assistance, write Lead Industries Association, Inc., 292 Madison Avenue, New York, N. Y. 10017.

LIA05100

1 ANALYSIS OF RETURNS

This report is based on the first 200 useable returns. The following analysis details the Standard Industrial Classification of the returns and MACHINE DESIGN's current circulation:

SIC No.	Industry	% Returns	% Copies*
19	Ordnance and Accessories	4.5	4.2
34	Fabricated Metal Products	7.0	6.7
35	Machinery (ex. Electrical)	29.0	27.0
36	Electrical Machinery, Equipment and Supplies	24.0	24.7
37	Transportation Equipment	14.5	14.3
38	Instruments	7.0	7.5
73	Research and Development	1.0	1.4
89	Consulting Engineers	2.0	2.8
	All Others	11.0	11.4
		100.0%	100.0%

*A total of 233 returns were received.

2 HOW TO INTERPRET SCORES

By means of Ad-Gage, the performance of any advertisement can be analyzed six different ways.

The first three involve only the advertisements in this issue. The other three involve the advertisements in 26 issues studied in 1971. (Letter Grades)

CURRENT ISSUE

All of the ads in this issue can be compared in three areas: Performance, Average Scores by Sizes, and Average Scores by Product Classes:

Performance Rating Index (PRI)

A Performance Rating Index has been computed which allows for a comparison of the performances of all the ads in this issue. The Index figure reflects the readership achieved for the amount of money spent for space.

The Index is compiled through the use of actual billing costs and the readership of this issue. (The cost of preparing an ad is not considered; for inserts, billing is adjusted.) The Performance Rating Index formula is as follows:

$$\frac{\text{Median Cost of all Ads}}{\text{Median Score}} = x$$

$$\frac{\text{Actual Cost of an Ad}}{\text{Actual Score}} = y$$

$$\frac{x}{y} \times 100 = \text{PRI}$$

An Index figure of 100 represents STANDARD performance compared to all the other ads in this issue. Index figures above 100 are above STANDARD performance. Index figures below 100 are below STANDARD performance.

A Performance Rating Index has been computed for every ad and is included in this report.

Size Averages

Space Unit	Number in issue	Average Score
Two pages, four color	9	19.1
Two pages, two color	2	17.5
Two pages, black and white	3	13.0
One and 1/3 pages, black and white	1	12.0
Full pages, four color	27	12.3
Full pages, three color	1	12.0
Full pages two color bleed	6	11.5
Full pages, two color	16	10.6
Full pages, black and white bleed	12	10.8
Full pages, black and white	24	11.2
2/3 page, color	8	5.0
2/3 page, black and white	9	5.9
1/2 page, color	5	6.6
1/2 page, black and white	15	4.6
1/3 page, black and white	23	4.3
1/4 page, color	9	5.1
1/4 page, black and white	66	3.3
	236	7.6%

Product Class Averages

Product	Number in issue	Average Score
Electric Motors	9	6.3
Electrical & Electronic Components & Equipment	34	6.1
Fluid Power & Fluid Components	43	6.2
Mechanical Power Components	48	8.2
Assembly Components	22	7.5
Metallic Materials & Finishes	14	11.4
Nonmetallic Materials & Finishes	21	10.7
Prefabricated Shapes & Structures	10	6.6
Manufactured Parts (Exclusive of Prefabricated shapes & structures)	17	5.6
Engineering Department Equipment & Service	9	13.4
Other Products and Services	9	4.4
	236	7.6%

LETTER GRADES

Letter grades make possible a comparison of an ad in this issue with ads which have appeared in all issues over a twelve month period. This system, devised by the *Marketing Communications Research Center*, compensates for fluctuations in the level of scores from issue to issue.

Letter grades also make possible comparison of ads studied by different readership services. For example, because of differences in research methods, some readership services produce high numerical scores. It would be unrealistic to attempt to compare a numerical score from such a service with the numerical score of another readership service. With letter grades, however, ads in the top sixth no matter how high or low the actual scores, all get a grade "A" regardless of which service reports the score.

There are three categories of comparing ads by letter grades: All ads, ads of the same size and ads of the same product class.

MACHINE DESIGN analyzed all 26 issues last year, and

LIA05103

ARTICLES

	% READ with interest
Gurney's Eagles Fly at Indy	70
Can Technology Survive Bureaucracy?	
Professional on a Yo-Yo.	70
Infrared - Ultraviolet	48
The Revolution in Flywheels	54
Structural Parts from Plastic Foams?	47
Is your Hydraulic System Fire-Safe?	31

DEPARTMENTS

	% READ with interest
News Trends	82
Computer Center	47
Design International	55
Scanning the Field	59
Editorial: Level with Uncle OSHA	60
Tech Briefs	42
New Products	33
Free Product Literature	19
New Materials	30
Design Office Equipment	15
Lab Equipment	14
Backtalk	35

⑤ READER TRAFFIC

Ad-Gage regularly analyzes the reader traffic in MACHINE DESIGN, by dividing the publication into three sections and measuring the amount of readership in each section. The results for this issue are as follows:

READ with interest	
First 1/3	99%
Second 1/3	97%
Third 1/3	95%

⑥ ADVERTISERS INDEX (Percent READ with interest)

PAGE NO.	%	PAGE NO.	%	PAGE NO.	%			
AMBAC Industries Inc., Fluid Power Systems Div.	65	6	CEM Co.	200	5	Fairfield Mfg. Co., Inc.	180	9
AMF Inc., Potter & Brum- field Division	60	10	Camcar Screw & Mfg.	203	7	Falk Corp., The	40-1	15
AMP Telecon Division	112	15	Cameron Iron Works	64	8	Federal-Mogul	109	10
Acco, Cable Controls Div.	165	11	Chesterton, A. W.	227	5	Federal Stampings, Inc., A division of Doric Corp.	224	2
Acme Rivet and Machine Corp.	241	5	Carborundum Co., The	47	12	Ferguson Machine Co., A div of UMC Industries, Inc.	105	11
Aerofast Inc.	226	5	Cliftronic, Inc.	214	3	Fischer & Porter Co.	217	6
Aerogulp Corp., AMB Div.	211	7	Colt Industries, Crucible Magnetics Division	191	9	Fisher, A., Tool & Machine Works	216	2
Airpax Electronics/ Cam- bridge Division	230	4	Conant Controls, Inc.	91	10	Fluid Controls, Inc.	71	9
Albion Industries, Div. of King-Seeley Thermaos Div.	11	10	Cone Drive Gears	90	8	Formsprag, Electro-Mechanical Div.	184	6
Allen-Bradley Co., Industrial Controls Division	27	11	Conrac Corp., Cramer Div.	211	2	GAF Corp., Office Systems	69	12
American Cyanamid Co.	79	11	Continental Screw Co., A div. of Amtel Inc.	5	17	Gear Specialties, Inc.	77	13
American Drill and Bushing Co.	209	2	Cotta Transmission Co.	235	3	Gemco	220	4
American Koyo Corp.	93	46	Crane Plastics	207	3	General Electric Co.	9	13
American Standard Heat Transfer Division	72	9	DELAVAL, Barksdale Controls Division	78	4	General Time	7	11
AquaMatic Inc.	224	3	DELAVAL, Gems Sensors Div.	78	6	Goodrich, B.F. Chemical Co.	97	13
Armco Steel Corp.	39	20	Designatronics, Inc., Stock Drive Products Division	221	4	Grayhill Inc.	216	3
Artisan Electronics Corp.	238	2	Disc Instruments, Inc.	206	3	Gries Reproducer Co., Div. of Coats and Clark Inc.	208	4
Ashworth Bros., Inc.	185	5	Doerr Electric Corp.	82	6	Grisby-Barton Inc.	227	3
Associated Spring Corp.	227	6	DuPont, E.I. DeNemours & Co.	202	3	Gulf Environmental Systems/ Roga Marketing	209	4
Auburn Mfg. Co., The	189	3		211	4	Hansen Mfg. Co.,	66	11
Automatic Switch Co.	88	11		220	4	Harrington & King Perforating Co., Inc.	204	4
Auto Specialties Mfg. Co.	220	8	DuPont, E.I. DeNemours & Co.	76	9	Hecon Corp.	187	3
BLH Electronics, Inc.	67	10		166-7	27	Heinemann Electric Co.	228	2
Bead Chain Mfg. Co., Bead Chain Division	207	2	Eastman Air Devices Inc.	202	2	Heise Bourdon Tube Co., Inc.	236	6
Belden Electronics Div.	86-7	15	Eastman Chemical Products	185	13	Hercules Inc.	58-9	23
Bellofram Corp.	222	3		213	18	Hewlett-Packard	176-7	4
Bergen Wire Rope Co.	226	3	Eaton Corp., Industrial Drives Division	75	10	Hilliard Corp., The	116	8
Bethlehem Steel Corp.	83	15	Electric Indicator Co., Inc.	182	2		174	4
	89	10	Electro-Mechano Co., The	218	4	Hoffman Engineering Co., Division of Federal Car- tridge Corporation	207	4
Bimba Mfg. Co.	169	12	Emerson & Cuming, Inc.	230	3	Hooker Chemical Corp., Durez Division	30	11
Borg-Warner Corp., Marbon	157	10	Emerson Electric Co., Browning Mfg. Div.	19	10	Hotwatt, Inc.	240	2
Borg-Warner Corp., Morse Chain Div.	45	11	Empire Steel Castings Inc.	205	6	Houdaille Industries Inc., Viking Pump Division	115	12
Borg-Warner Corp., Spring/ Brummer Div.	62	12	Eriez Magnetics	92	7	Houghton, E. F. & Co.	189	6
Breeze Corp., Inc.	189	11	FMC Corp., Link-Belt Bearing Division	154-5	18	Humphrey Products	IBC	11
Brillion Iron Works	223	4	Faber-Castell, A.W., Pencil Co., Inc.	55	25	Hydra-Zorb	192	3
Bunker Ramo Corp., Amphenol Industrial Division	172-3	21	Fairchild Industrial Products Division	222	2			
Butler Precision Belting	216	2	Fairchild Industrial Products Division	229	3			

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