

The Origins of the Butterfly Tie

For at least the past 75 years, and likely the better part of the 20th century, expanded metal lath has been tie wire attached to cold rolled channel and cold formed metal studs. The most common tie is the butterfly tie. The butterfly tie is accomplished by twisting two ends of tie wire one-half turn then sniping off the wire forming two wings ½ - to ¾ inches long. The wings are flattened into the lath so they lay up tight and resist snagging on the plasterer's trowel.

Lathers use 18 gage galvanized, annealed tie wire to attach lath onto iron. They spin butterfly ties which, in the hands of a good lather, go up faster than screws. I spoke to a retired lather whose career started in the 1940's. In his prime, he could make 20 butterfly ties a minute!

1

THE ORIGIN OF THE BUTTERFLY TIE
BY MICHAEL LOGUE

2

WESTERN CONFERENCE MEETING
BY MARK FOWLER

3

EIFS, REALLY?
BY ALBERT CARRILLO

4

LOWER VOC TROUBLE FOR
CONTRACTORS?

5

IT'S TIME TO TELL THE TRUTH
BY MARK BRESLIN

6

WELLNESS CITY IN SO. CAL

STAFF NEWS

PLASTERERS APPRENTISHIP
GETS A LIFT

7

CALENDAR/EVENTS

NEW MEMBERS

The Orgins of the Butterfly Tie (Cont.) — By Michael Logue

Tie wire, while strong and durable, is soft and workable. This quality makes it perfect for the half turn butterfly tie. With just a simple twist of the wire, you engage the lath and secure it to the iron without heating up and tempering the wire at its intersection. The stub tie, on the other hand, receives one and one half turns, which could heat up and temper the wire, weakening it. For this reason, cross furring iron is tied to main runners with two strands of 18 gage wire or one strand of 16 gage tie wire. In addition, a butterfly tie for lath attachment eventually becomes encased in a solid mass of portland cement-based plaster, whereas, the stub tie iron connection is as much as $\frac{3}{4}$ " above the plaster.

Table XIV (page two) taken from the Diehl Manual of Lathing and Plastering provides tie wire data for single strands of U.S. Steel Wire. Per table XIV *ibid*, one strand of 18 gage tie wire has a safe working load of 32 lbs., and an estimated ultimate strength of 108 lbs.

U.S. Steel Wire Gage	Diameter in Inches	Cross Section Area — Sq. In.	Safe Load in Lbs. ^b	Estimated Ultimate Strength ^c
18	.0475	.0018	32	108
16	.0625	.0031	56	186
14	.0800	.0050	90	300

^a It must be remembered that this table lists a single strand of tie wire. When a single loop of tie wire is made, 2 strands support the load or when a double loop or saddle tie is made, four strands support the load. The safe load figure then will be multiplied by the total number of strands.
^b Based on a design or working stress of 18,000 psi.
^c Based on ultimate strength of 60,000 psi.

One square foot of wet, three-coat, 7/8" thick portland cement plaster embedded into one square foot of 3.4 lb/sy expanded metal lath weighs approximately 14.35 lbs. There are 2.25 ties of 18 gage wire per square foot which works out to 6.37 lbs/tie. This works out to a safety factor of more than five, on top of the already calculated safe working load for the tie wire. Clearly, the tie wire is more than adequate to handle the weight of 7/8" thick, portland cement-based plaster.

The real test of the butterfly tie, however, is not how it calculates on paper, but rather, its' storied track record. Both interior and exterior ceilings have been suspended in the classic method of hanger wire (saddle tied) to cold rolled channel main runners with cold rolled furring channels (tie wire attached) and 3.4 lb/sy expanded metal lath (tie wire attached) all carrying exterior portland cement and interior gypsum plaster. These ceilings have been used by designers for at least 75 years and many are still in existence, performing just fine. The method is simple, effective, economical and durable.

1

Western Conference Meeting is a Success — By Mark Fowler

The Western Conference of Lath and Plaster Institutes was originally formed in the 1970's. The conference was a gathering of technical experts from the various plastering trade bureaus on the west coast. The group produced a series of excellent technical documents such as:

- **Trade Offs in Fire Protection**
- **Control Joints in Plaster and Best Practices**
- **Lath and Plaster of Detention and Security Walls**

The recent Energy Code and Plaster Systems brochure has sparked renewed interest in the Conference and the participating Bureaus met in Oakland to revise the current brochure and work on other useful documents. The first order of business was to elect officers for the conference. In the spirit of having all regions represented equally Frank Nunes, representing Northern California, was elected chairman. Jim Young, representing the Pacific Northwest, was elected vice-president. Our own Michael Logue, representing the Southwest was elected secretary/treasurer.

The group was then divided into two committees, an Interior and Exterior task force. The group plans to tackle several issues relating to exterior plaster and gypsum wallboard. The papers produced would represent the collaborative effort and a unified voice of the industry representing 8 western states.

"I never got to meet the guys in the south in person" said Jim Young from the Northwest Wall and Ceiling Bureau. "Now that I have, I know we can work together to help the industry in the right direction". TSIB advisor Darin Coats noted "I have other experts, like Ben Duterte from Northern California and Terry Kastner of Seattle, that I can share ideas and experiences with". Darin continued, "This can only make us all stronger"

The members agreed to meet again in the near future and even talked about a possible meeting during the WWCCA desert golf outing in the Spring of 2011. The enthusiasm was apparent as the best technical experts in the wall and ceiling industry had no shortage of topics that needed addressing. With so many code changes, green/energy issues and various consultants proliferating our industry, the design and inspection communities are starved for non-proprietary information based on years of field expertise.

EIFS, really?

By Albert Carrillo

Probably one of the most extensively tested exterior claddings is Exterior Insulation and Finish System or EIFS. (An acronym pronounced “eefs”, please don’t call it EFUS.) When you look at the basic components of an EIF system, you can see the simple design and minimal amount of parts required to complete this system. All of these parts fall under the warranty umbrella of one manufacturer and all are designed to be synergistic, operating as one unit. The simplistic nature of EIFS may in fact be what concerns wary design professionals and contractors.

During my Dryvit years the most challenging market area I was assigned to was the stucco capitol of Southern California. The preferred cladding of choice is the three-coat stucco system. Most of the plastering contractors here can apply stucco in their sleep. Southern California has some of the finest stucco mechanics I have seen, clean, fast, and extremely efficient. There is a fair amount of EIFS applied there, but overall, stucco reigns king. I might even go so far as to say that there is a disregard or lack of confidence in the EIFS claddings.

Barrier EIFS uses four basic “parts” expanded polystyrene, acrylic modified base coat, woven fiberglass mesh and an acrylic finish. It is a true “system” and as mentioned before carries an “umbrella” or single source warranty. Stucco uses many parts and pieces, a code approved water barrier, self-furred metal lath, corrosive resistant fasteners, galvanized metal or vinyl trims, cement, lime, sand and sometimes an acrylic finish or a paint coating. Stucco installed is an assembly and the warranty falls to the local building code terms or the contractor. An exception to this is the newer proprietary stucco mixes which can carry a manufacturer’s warranty. EIFS can be applied in a short span of three days, stucco a minimum of seven. Both claddings function as a barrier to keep weather out. Both also provide

an aesthetically pleasing finished look.

I remember in the early nineties Dryvit had an installation VHS tape which compared EIFS to a fine guitar. The guitar, built with a hand crafted excellence that provided many years of service and musical pleasure. The Dryvit EIFS, manufactured excellence that, as a system, provided many years of service. The comparison was fitting at the time when EIFS was applied by an elite group of plastering professionals. EIFS applicators were limited and considered specialists during the early years of EIFS. Now EIFS is applied by most plastering firms and the select group of “certified” applicators is but a memory. The excellence in application is still there but because EIFS is so wide spread it may have lost some of the mystique it once had. Since stucco has been around since the Egyptian days, it is a natural “I know it, I’m comfortable with it” fall-back option.

The installation VHS tape was very well done and appropriate back then. In today’s market I would compare EIFS more to a bicycle than a guitar. Millions of people ride bicycles but few play a guitar. Like the simplicity of EIFS, the bicycle is a very simple means of transportation. Push down on a pedal and the machine is propelled forward, pedal backward and it stops. The hardest part of learning to ride is the balance aspect. The very simple function of the bicycle is to get you from point A to point B. Although very simple, a bicycle has hidden benefits. The hidden benefits are the fact that while pedaling from point A to point B the rider is exercising and getting healthier. The man-power propulsion of a bicycle helps to reduce the carbon emissions spewed into the air from the automobile. Sure it may take longer to get to a destination on a bike vs. a car but the rider can enjoy the outdoors, taking in all the sights and beauty the slower pace has to offer. An EIF

systems basic function is to keep the weather out of a wall assembly. It is also a good looking exterior cladding that can replicate stucco, brick, metal or even wood. EIFS has a hidden benefit in that it functions as a system to provide continuous insulation around a building. This silent performance helps to maintain a constant interior temperature lowering the demand for energy to heat or cool the building. It too helps our environment by reducing carbon emissions. Both the bicycle and EIFs have been around for many years functioning in their simplicity and providing “silent” benefits.

Now I know there was a big scare about some water intrusion issues and EIFS claddings some years ago and I suspect it may have contributed to some intense scrutiny of the cladding. Like the bicycle rider who fell off their bike and broke both arms, and who vowed to never ride a bike again, there exists the designer or contractor who may have gotten into some hot water with their EIFS cladding and have vowed to never use EIFS again. This article is written to tell you that EIFS can be trusted and there is no need to fear it. Yes there were some concerns about moisture intrusion, but through a very intense scrutiny of the EIFS claddings it was brought to light that the “perceived system failures” were nothing more than improper detailing and improper installation. In fact, despite the wrong doings, the EIFS claddings had performed very well. The issues were limited to small areas like directly under windows, at below grade terminations or at roof run-off points. The issues were sensationalized to make good press. In fact other claddings were experiencing issues but didn’t make the news and their issues were soon forgotten or written off as an unfortunate occurrence.

(Story Continued on next page)

EIFS, really? (Continued)

So, back to my comparison to a bicycle, let's say you wanted to ride your bicycle off road over very rough terrain, up one mountain and down another. Your simple "old school" ride would make your venture challenging. You might think 'there has got to be a better bike for this', go to your local bike shop and get a mountain bike with many gears, a more comfortable seat and a shock absorbing suspension, a higher performance bicycle for higher performance riding. EIFS barrier systems are the flagship design and are the simplest of the systems, the "old school" cladding. For a higher performance system you could add a drainage plane or make the EIFS cladding a pressure equalized system. Maybe you want to add a finish with special technology that has the ability to shed dirt and grime. When you add these to a standard EIF system you enhance them with a belt-and-suspenders performance system. Considering its simplicity, the performance characteristics of EIFS claddings are very high. But, like the basic "old school" bike, barrier EIFS still performs as intended and should not be excluded.

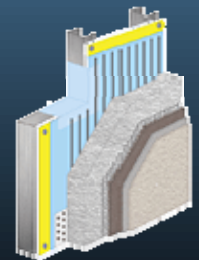
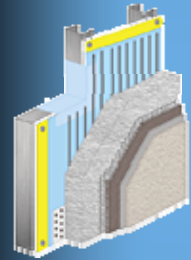
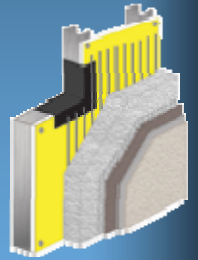
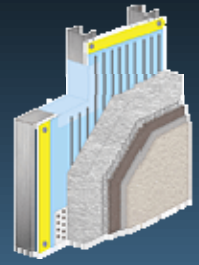
Despite what an EIFS salesperson may tell you, the truth is that EIFS may not be practical in some applications. For example; an EIF system should not really be used on a parapet top. Any horizontal surface should not be larger than 18-24 inches wide, else it becomes a roof. Don't allow the system to continue below grade where hydrostatic pressure could cause water to get in, or bugs could find a hidden path into the wall assembly. Consider other cladding options for shopping center columns at the end of the parking spaces. And as I learned from experience with EIFS on schools, maybe consider brick, or stone, or titanium, as the cladding. If you really wanted, you could ride your bicycle in the fast lane of the busy boulevard but c'mon, really, would you?

3 Roll down the big hill with no hands on the handlebars, head back, eyes closed, and in your hair, risky. Knowing your

limits and keeping it practical can only lead to success.

With the new energy code mandates, we will see a more prevalent use of continuous exterior insulation. We have developed the brochure "How To Make Continuous Insulation Work, The Energy Code and Plaster Assemblies". In it, we show EIFS, One-coat stucco and three different three-coat stucco systems with foam insulation. EIFS of course was founded on the exterior insulation concept. One-coat stucco has for many years been applied over one inch tongue and groove EPS. It is the three-coat stucco over foam systems that are a relatively unknown concept. When you compare the different systems, EIFS just makes sense. It is a proven system with extensive testing. EIFS weighs just one pound per sq. ft., can be applied to the finished product in three days, is easy to install and uses just four basic components. Don't get me wrong, I love stucco and find it to be a very good exterior cladding. But when considering exterior continuous insulation systems, there is no need to re-invent the wheel.

There are many myths and misguided understandings about EIFS. A true understanding of these systems can alleviate concerns or misunderstandings about EIFS. You can contact your local EIFS representative for an educational seminar or to simply ask questions about the systems and their performance. Bryan Stanley and I, ex EIFS representatives, can also help you with your questions or concerns. In these slow construction times and with increased competition, why spend your valuable time figuring out how to make an unfamiliar system work. Have faith in the proven system called EIFS. So get back up on your bike and cruise the boulevard. Enjoy the simple pleasure a good ride brings and yes, EIFS, really.



Can Lower VOC Products Spell Trouble for Contractors? It's Time To Tell The Truth

Mark Breslin
Breslin Strategies

Volatile Organic Compound (VOC) refers to organic chemical compounds which have significant vapor pressures and which are known to affect the environment and human health. VOC's are numerous, varied and ubiquitous. VOC's may be man-made or naturally occurring chemical compounds. They are regulated, especially for indoors where concentrations can be highest. While VOC's are typically not acutely toxic, they can have long term chronic effects. VOC's have been in many products we use in construction and with the "Green" building movement is in full effect, we are seeing them vanish quickly from all product lines.

While we all know the inherent health risks of being exposed to high levels of VOC's, we seem to gloss over why manufacturers used them in the first place. They impart performance characteristics and/or durability to products. Most notably, paints and coatings are a major source of VOC's. Solvents high in VOC's are aliphatic hydrocarbons, ethyl acetate, glycol ethers and acetone. These and other VOC's are being banned from use and this forces the manufacturers to seek alternative low VOC products. The concern is will these products perform as well as their predecessors? The TSIB team has been investigating projects for several years and it appears as the ban on VOC's increases, the performance of many paints, primers and coatings is not what contractors are used to on past work sites.

We can't blame manufacturers, they must comply with the law. Manufacturers are also in business to sell product and announcing that their new lower VOC product may not perform as well as the previous product line, is not likely to happen and is unrealistic to expect this type of suicidal add campaign by any manufacturer. They have to market their product line, the best way they can.

Unfortunately, the other side of the coin is the owner and Architect. They have come to expect near perfection in products and interior wall finishing. Why not, it has been improving for decades, but with minimal restrictions on VOC products. It is good that we produce lower VOC and more health conscientious products, but architects and owners should realize the challenge this places on the wall and ceiling contractors. Architects and building owners should realize that strict regulations on VOC's are great, but we have to accept that the performance of the same product is likely to diminish slightly.

The consideration of using a low or no VOC coating is dependent on an evaluation of two factors, aesthetics versus indoor air quality. The slight diminish in performance from a low VOC paint/coating may leave variances typically not seen with the traditional VOC coatings. On the other side, low VOC coatings can contribute to better indoor air quality and gain possible LEED credits. The decision must be made weighing the options, you just can't have it both ways.

For my entire career I have worked for the advancement of union construction. To do so has required a great degree of personal optimism in the face of cynicism, inertia, conflict and declining numbers. Now even being the eternal optimist, I am worried about the future of the union business model and labor and management's ability to safely navigate to a better future. But I have the solution; at once simple and painful. Tell the truth. Be brave. Implement change.

The truth is that the future for union construction is going to be very rough. Everywhere in the US and Canada labor and management are facing the same critical challenges; market share declines; escalating benefit costs; increased non union competition and a sputtering economy. This has manifested itself in difficult bargaining, loss of trust, jurisdictional strife and general fear and anxiety about an uncertain future. At times like this fear causes some leaders to "ball up" instead of reaching forward boldly. We must avoid this at all costs.

The challenges of the economic environment we are in are unprecedented; but meeting the challenges that labor and management face now are foundational to their common future. Contractors must remain competitive. Unions must fulfill their role as employee advocates to create security. Both of these must be done in a way that balances economics and market share. This requires change. But to set up change you have to get everyone on board. The most important thing that needs to be done to promote necessary change is for labor and management is to first tell the truth. Tell the truth to every union worker in the US and Canada. A million to two million union craftspeople must understand that **the truth is as follows;**

- the good old days are gone
- there is no entitlement available now or ever again
- they are responsible for their own future
- there is a limit to what construction owners will pay
- when you exceed that limit and don't provide value, they go to the competition
- your pension, health and welfare and career are directly tied to market share
- if many younger union members are not well mentored in skills then the pension plans for existing journeymen are at high risk
- if market share declines then everything has to be up for change or we go under
- this is not the contractor or your business manager's fault
- complaining won't fix anything
- change is not only necessary; it is the only

Answer

(Continued on next page)

\$3.3 billion "Wellness" city to be constructed in Southern California



On July 27th, Governor Schwarzenegger joined McCarthy Building Inc. in a ribbon cutting ceremony to open the "March Life-Care Campus" to be constructed on the former March Air Reserve Base in Southern California. The project is expected to take ten years to construct with an estimated budget of \$ 3.3 billion dollars. The massive project is Americas first "Health and Wellness City" encompassing 246 acres 6 million square feet of health related struc-

ture, including a hospital, medical office buildings, healing gardens, a retirement center and ambulatory care.

Governor Schwarzenegger referred to the project as the "Mayo Clinic of the West". Over 12,700 construction workers will be employed. Phase one will be 1.4 million square feet of new construction after the 16 existing structure are demolished.

It's Time To Tell The Truth (continued from page 4)

Labor and management need to educate our workers like never before. The union members need to fully understand the real truth about the challenges ahead and act in support of whatever change is needed. No more telling them what they want to hear. No more blaming the other guy. No more treating them like mushrooms (keep them in the dark and feed them bull---t). This is most critical in apprenticeship. They need to start their careers knowing that the industry and our future is on the line.

To empower them to meet the competitive challenges they need to be "all in". To accept necessary changes as suggested by their leadership if and when necessary, they need to understand why. To step up professionally and productivity wise so that contractors can try to fill the labor

coursework pales in comparison with "your role & responsibilities in our future".

The polarization of labor and management sank the union airline, steel, auto and several other major industries. The union construction industry has moved towards change faster than those industries but is time getting short? The broader view must be solution based not conflict based. Combining truth-telling with sound change strategies is the way of the future. It is hard to keep one's chin up when it keeps getting punched, but it is the few of us who remain committed to education and change and optimistic about the result, who will keep our collective future from the edge of darkness. This is today's training, growth and leadership challenge and test.

And that's the damn truth.

By Mark Breslin—Breslin Strategies
www.breslin.biz

Congratulations Bob & Debbie



On August 7, 2010, Bob Campbell (WWCCA Manager Nevada Office) and Debbie Amend married at sunset before family and friends at the Lowes Coronado Bay Resort, San Diego, CA.

With warmest wishes
for the best in life
as you both look
forward
to a shared future
of love, friendship,
and the wonderful
closeness that is
marriage.

Congratulations!

~ WWCCA Staff ~

New Lift



The Plasterers Apprenticeship program has recently purchased a re-conditioned telescopic lift. The Manitou MT 732 lift will be helpful in training apprentices and in many journeymen upgrade classes. The lift will also be a time saver and is expected to be a worthwhile investment.

CALENDAR / EVENTS

September							21—Old Timer's Meeting Phoenix Club 22—Membership Meeting Las Vegas, Panevino Restaurant
S	M	T	W	T	F	S	
			1	2	3	4	
5	6	7	8	9	10	11	
12	13	14	15	16	17	18	
19	20	21	22	23	24	25	
26	27	28	29	30			
October							7—Membership Meeting San Diego, The Butcher Shop Steakhouse
S	M	T	W	T	F	S	
					1	2	
3	4	5	6	7	8	9	
10	11	12	13	14	15	16	
17	18	19	20	21	22	23	
24	25	26	27	28	29	30	
31							
November							16—Membership Meeting—Anaheim, Phoenix Club
S	M	T	W	T	F	S	
	1	2	3	4	5	6	
7	8	9	10	11	12	13	
14	15	16	17	18	19	20	
21	22	23	24	25	26	27	
28	29	30					

NEW MEMBERSHIP

A & R DRYWALL SERVICE INC. ANNING-JOHNSON Co. BERGER BROS.
 INC. BEST INTERIORS BRADYCo./LA, INC. BRENT R. SCHWEBEL PLAS-
 TERING INC. CAPPARELLI CONTRACTING CO. CASTON PLASTERING &
 DRYWALL, INC. CHURCH & LARSEN, INC. DAYCAL, INC.
 E&K OF PHOENIX EAST- BROOK CONSTRU-
 TION INC. F. RODGERS INSULATION INTERIORS FIREPROOF COATINGS FREDERICK MEISWINKEL, INC.
 TION INC. GIERAHN DRYWALL INC. GYPSUM ENTERPRISES, INC. INSUL DRYWALL & PLASTERING INC. J
 TION J.O. STILES, INC. JADE, INC. JOHN JORY CORP. JOHNSON, BARNES & FINCH KEN HARGES
 Co. INC. KHS&S KRON INTERIORS, INC. L.K. LAUBER Co. LATHCO LAWRIE & COMPANY, INC MAR-
 MARCO WALL MARTIN CORP. MATRIX WALL SYSTEMS, INC. MKB CONSTRUCTION MOWERY-
 SON, INC. NEVELL GROUP, INC. NEVELL GROUP, INC. - SAN DIEGO OC PLASTERING PACIFIC
 SYSTEMS, INC PERFORMANCE CONTRACTING, INC. PERFORMANCE CONTRACTING, INC. ARI-
 PERLITE PLASTERING CO., INC. PIERCE/GYPSUM ENT. J.V. POOL'S CONSTRUCTION PRE-
 WALL CONSTRUCTORS, INC. GEORGE M. RAYMOND RAYMOND INTERIOR SYSTEMS RAYMOND-
 DIEGO, INC. RICE DRYWALL, INC. RON WILLIS LATHING RTI CONSTRUCTION RUTHERFORD
 SANTA CLARITA INTERIORS, INC. SCHMITT CONTRACTING, INC. SHARPE INTERIOR SYSTEMS
 LATHING CO. SIFLING BROS., INC. SO. CAL DRYWALL CO., INC. SPECTRA DRYWALL SYS-
 STANDARD DRYWALL SUPERIOR WALL SYSTEMS, INC. TARLTON AND SON, INC. TODD F
 (LATH & PLASTER) TRENDEX CORP.. UNLIMITED INTERIORS VERSATILE COATINGS W.C.
 INC. W.F. HAYWARD CO. W.S. HAYNES LATHING CO. WESTCOAST FIRESTOPPING, INC.
 CAL MATERIAL SERVICES AHERN RENTALS ALLIED NORTH AMERICA INS. ALLIED STUDCO
 ING TOOLS AMICO-WEST ANDRADE & ASSOCIATES BASF WALL SYSTEMS BASF WALL SYS-
 NYBMI PRODUCTS OF NORTHERN CA. INC. BRADY CONSTRUCTION INNOVATION BRAND X
 CALIFORNIA BUILDING SUPPLY INC. CEMCO CEMEX CERTAIN TEED GYPSUM CHEMICAL LIME
 WESTERN CLINCH-ON-CORNERBEAD CLOUTIER-LOTT ENTERPRISES COMMERCIAL SCAFFOLDING
 CONTRACTORS BUILDING CUSTOM WALL BUILDERBLAZE FRAME INDUSTRIES FASTEN SEAL PROD-
 AMS MATERIAL DAVIS WIRE CORP. "DESIGN SHAPES ""IN"" STEEL" DIETRICH METAL FRAMING DRY-
 DUPONT TYVEK WEATHERIZATION PARTNERS, LTD DUPONT TYVEK WEATHERIZATION PARTNERS, LTD
 VICES E-Z MIX INC. FLANNERY, INC. FORTIFIBER FRY REGLET CORP. GIBCO G-P GYPSUM CORP.
 GREAT WESTERN BUILDING MATERIALS HARDY FRAMES, INC. HI-TECH ARCHITECTURAL PRODUCTS, INC. HUTTIG-TYPAR INSULFOAM ISOLATEK INTER-
 NATIONAL J & M SERVICE, INC. J&B MATERIALS, INC. KARCHER INTERIOR SYSTEMS, INC. K-LATH LA HABRA PRODUCTS MERLEX STUCCO MOONLIGHT-
 MOLDS, INC. MOORE STEPHENS WURTH FRAZER AND TORBET, LLP MULTIQUEIP INC. MUNTERS CORPORATION NATHAN KIMMEL, CO. LLC. NATIONAL
 GYPSUM PABCO GYPSUM WALLBOARD PAREX LA HABRA PHILLIPS MANUFACTURING PRIDEMARK (HOLDREN INSURANCE) PUTZMEISTER, INC QUIET
 SOLUTION R&S SALES LLC. DBA VARIANCE FINISHES RADIUS TRACK CORP. RAY-BAR ENGINEERING, CORP. RPW INSURANCE BROKERAGE, INC. Senco
 PRODUCTS SQUIRES-BELT MATERIAL CO. STOCKTON PRODUCTS STRUCTA WIRECORP. TEXSTON INDUSTRIES THOMAS DRYWALL PRODUCTS THOMPSON
 BLDG MTRL., INC. TXI RIVERSIDE CEMENT ULTIMAZ CEMENT CORP UNITED METAL PRODUCTS UNITED STATES GYPSUM UNIVERSAL MATERIAL SUPPLY, INC.
 VEFO INC. VINYL CORP. W.R. GRACE & CO. WESTERN PAC MATERIALS WESTPAC MATERIALS WESTSIDE BUILDING MTRLS. WESTWOOD BUILDING MATERIAL



TION INC. F. RODGERS INSULATION INTERIORS FIREPROOF COATINGS FREDERICK MEISWINKEL, INC.
 TION INC. GIERAHN DRYWALL INC. GYPSUM ENTERPRISES, INC. INSUL DRYWALL & PLASTERING INC. J
 TION J.O. STILES, INC. JADE, INC. JOHN JORY CORP. JOHNSON, BARNES & FINCH KEN HARGES
 Co. INC. KHS&S KRON INTERIORS, INC. L.K. LAUBER Co. LATHCO LAWRIE & COMPANY, INC MAR-
 MARCO WALL MARTIN CORP. MATRIX WALL SYSTEMS, INC. MKB CONSTRUCTION MOWERY-
 SON, INC. NEVELL GROUP, INC. NEVELL GROUP, INC. - SAN DIEGO OC PLASTERING PACIFIC
 SYSTEMS, INC PERFORMANCE CONTRACTING, INC. PERFORMANCE CONTRACTING, INC. ARI-
 PERLITE PLASTERING CO., INC. PIERCE/GYPSUM ENT. J.V. POOL'S CONSTRUCTION PRE-
 WALL CONSTRUCTORS, INC. GEORGE M. RAYMOND RAYMOND INTERIOR SYSTEMS RAYMOND-
 DIEGO, INC. RICE DRYWALL, INC. RON WILLIS LATHING RTI CONSTRUCTION RUTHERFORD
 SANTA CLARITA INTERIORS, INC. SCHMITT CONTRACTING, INC. SHARPE INTERIOR SYSTEMS
 LATHING CO. SIFLING BROS., INC. SO. CAL DRYWALL CO., INC. SPECTRA DRYWALL SYS-
 STANDARD DRYWALL SUPERIOR WALL SYSTEMS, INC. TARLTON AND SON, INC. TODD F
 (LATH & PLASTER) TRENDEX CORP.. UNLIMITED INTERIORS VERSATILE COATINGS W.C.
 INC. W.F. HAYWARD CO. W.S. HAYNES LATHING CO. WESTCOAST FIRESTOPPING, INC.
 CAL MATERIAL SERVICES AHERN RENTALS ALLIED NORTH AMERICA INS. ALLIED STUDCO
 ING TOOLS AMICO-WEST ANDRADE & ASSOCIATES BASF WALL SYSTEMS BASF WALL SYS-
 NYBMI PRODUCTS OF NORTHERN CA. INC. BRADY CONSTRUCTION INNOVATION BRAND X
 CALIFORNIA BUILDING SUPPLY INC. CEMCO CEMEX CERTAIN TEED GYPSUM CHEMICAL LIME
 WESTERN CLINCH-ON-CORNERBEAD CLOUTIER-LOTT ENTERPRISES COMMERCIAL SCAFFOLDING
 CONTRACTORS BUILDING CUSTOM WALL BUILDERBLAZE FRAME INDUSTRIES FASTEN SEAL PROD-
 AMS MATERIAL DAVIS WIRE CORP. "DESIGN SHAPES ""IN"" STEEL" DIETRICH METAL FRAMING DRY-
 DUPONT TYVEK WEATHERIZATION PARTNERS, LTD DUPONT TYVEK WEATHERIZATION PARTNERS, LTD
 VICES E-Z MIX INC. FLANNERY, INC. FORTIFIBER FRY REGLET CORP. GIBCO G-P GYPSUM CORP.
 GREAT WESTERN BUILDING MATERIALS HARDY FRAMES, INC. HI-TECH ARCHITECTURAL PRODUCTS, INC. HUTTIG-TYPAR INSULFOAM ISOLATEK INTER-
 NATIONAL J & M SERVICE, INC. J&B MATERIALS, INC. KARCHER INTERIOR SYSTEMS, INC. K-LATH LA HABRA PRODUCTS MERLEX STUCCO MOONLIGHT-
 MOLDS, INC. MOORE STEPHENS WURTH FRAZER AND TORBET, LLP MULTIQUEIP INC. MUNTERS CORPORATION NATHAN KIMMEL, CO. LLC. NATIONAL
 GYPSUM PABCO GYPSUM WALLBOARD PAREX LA HABRA PHILLIPS MANUFACTURING PRIDEMARK (HOLDREN INSURANCE) PUTZMEISTER, INC QUIET
 SOLUTION R&S SALES LLC. DBA VARIANCE FINISHES RADIUS TRACK CORP. RAY-BAR ENGINEERING, CORP. RPW INSURANCE BROKERAGE, INC. Senco
 PRODUCTS SQUIRES-BELT MATERIAL CO. STOCKTON PRODUCTS STRUCTA WIRECORP. TEXSTON INDUSTRIES THOMAS DRYWALL PRODUCTS THOMPSON
 BLDG MTRL., INC. TXI RIVERSIDE CEMENT ULTIMAZ CEMENT CORP UNITED METAL PRODUCTS UNITED STATES GYPSUM UNIVERSAL MATERIAL SUPPLY, INC.
 VEFO INC. VINYL CORP. W.R. GRACE & CO. WESTERN PAC MATERIALS WESTPAC MATERIALS WESTSIDE BUILDING MTRLS. WESTWOOD BUILDING MATERIAL