

# DUR-O-WAL® LADUR TYPE

Product Information/  
Submittal Sheet

DUR-O-WAL®

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### Product Description

Ladur type is a prefabricated reinforcement especially designed for embedment in the horizontal mortar joints of masonry. Manufactured in 10 ft. 8 in. lengths at 16" on center. Ladur Type consists of two or more parallel, longitudinal rods weld-connected to perpendicular cross rods to form a ladder design. The cross rods are electrically butt welded to deformed side rods in a single plane. **Use at least one longitudinal side rod for each bed joint.** Out-to-out spacing of the side rods is approximately 2 inches less than the nominal thickness of the wall or wythe in which the reinforcement is placed. DUR-O-WAL truss is manufactured in accordance with Uniform Building Code Standard UBC 21-10 and ACI 530/ASCE 6/TMS 402 Building Code Requirements for Masonry Structures.

### Basic Uses

DUR-O-WAL Ladur Type reinforcement can be used in a number of applications to improve the performance of masonry walls. Some are:

- To control shrinkage cracking
- To provide principal horizontal reinforcement in engineered masonry walls
- To bond masonry wythes together in composite and cavity walls.
- To bond intersecting walls.
- To bond masonry wythes together in multiple wythe grouted masonry.

### Finishes

- DUR-O-WAL recommends mill galvanized (.10 oz. psf) for interior applications.\*
  - DUR-O-WAL recommends hot dipped galvanized (1.50 oz. psf) for exterior applications.
  - Also available in Class 1, Class 3 or stainless steel.
  - Check local building code for specification.
  - DUR-O-WAL does not recommend epoxy coating.
- \* Interior application where high moisture content is involved (locker rooms, food centers) hot dip galvanized recommended.

### Advantages

Tests show that continuous reinforcement improves the performance of walls by providing:

- Greater elasticity
- Higher ductility
- Better resistance to rain penetration
- Increased horizontal flexural strength



### Customer Service

Aurora, IL (800) 323-0090 • Folcroft, PA (800) 368-2035 • Birmingham, AL (800) 821-9296 • Phoenix, AZ (800) 235-0024

### Technical Service

www.dur-o-wal.com • Email: info@dur-o-wal.com • Fax-On-Demand: (800) 254-8958

- More economy
- Crack Control
- Butt welded single plane construction
- High bond with deformed side wires

### Specifications

All DUR-O-WAL wire products are made with wire conforming to the ASTM STANDARD SPECIFICATION for COLD DRAWN STEEL for CONCRETE REINFORCEMENT, ASTM A82 and ASTM A951.

DUR-O-WAL STAINLESS STEEL material conforms to ASTM STANDARD SPECIFICATIONS A580, TYPE 304.

Reference Specifications	Finish	Coating*
ASTM A82 (for cold drawn steel wire)	Brite Basic <sup>2</sup>	uncoated
Regular Mill Galvanized ASTM A 641 <sup>1</sup>	Mill Galvanized	0.10 ounce zinc coating
ASTM A641-Class 1	Mill Galvanized	0.35 ounce zinc coating
ASTM A641-Class 3	Mill Galvanized	0.90 ounce zinc coating
ASTM A153-Class B-2**	Hot Dipped	1.50 ounce zinc coating

\* Minimum ounces of zinc coating per square foot of uncoated wire surface

1 BOCA and SBCC Codes allow this finish for interior walls.

2 Brite Basic wire acquires rust in warehousing, transit, and job site storage. Therefore, DUR-O-WAL does not assume any responsibility for rusted material.

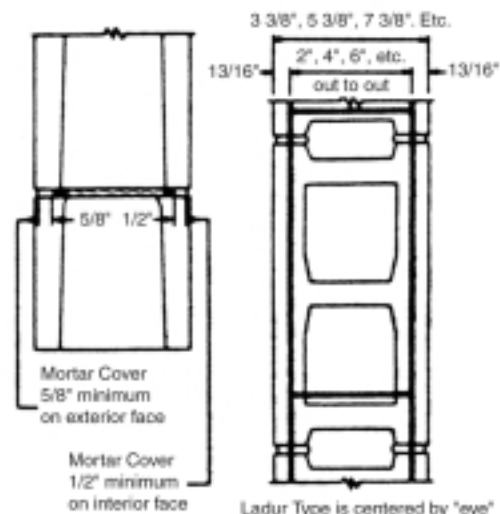
\*\* **Specify and insist on DUR-O-WAL! DUR-O-WAL will certify on request that its hot dip galvanized (ASTM A153) product will have a minimum of 2.0 oz. of zinc per square foot-33% more corrosion protection than minimum standard requirements.**

### Splices

Side rods should be lapped 6" at splices in order to provide adequate continuity of the reinforcement when subjected to normal shrinkage stresses.

### Centering and Placement

Place joint reinforcement directly on masonry and place mortar over wire to form bed joint.



Ladur Type is centered by "eye"

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## MINIMUM AREA OF HORIZONTAL STEEL REQUIRED TO SATISFY CODE REQUIREMENTS

Nominal Wall Thickness (in)	4"	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"
Gross Area in <sup>2</sup> /ft.	43.5	67.5	91.5	115.5	139.5	163.5	187.5	211.5	235.5	259.5	283.5
Total area of steel in <sup>2</sup> /ft .002 x Gross Area	0.087	0.135	0.183	0.231	0.279	0.327	0.375	0.423	0.471	0.519	0.567
Horizontal Steel Required in <sup>2</sup> /ft	0.030	.047	0.064	0.081	0.098	0.114	0.131	0.148	0.164	0.182	0.198

\*Compare area of steel required with area supplied by DUR-O-WAL Ladur.

## AREA OF STEEL SUPPLIED BY DUR-O-WAL LADUR TYPE REINFORCEMENT in<sup>2</sup>/ft

Vertical Spacing	2-#9 Side Rods	2-#8 Side Rods	2-3/16" Side Rods	4-#9 Side Rods	4-#8 Side Rods	4-3/16" Side Rods
8"	.052	.061	.083	.104	.12	.166
16"	.026	.031	.041	.052	.061	.083

## REINFORCEMENT FOR BOND BEAM AT TOP OF 8" & 12" CM WALLS WHEN DUR-O-WAL LADUR IS USED\*

Ladur Type Spacing	8" Wall					12" Wall					
	8'	12'	16'	20'	24'	8'	12'	16'	20'	24'	
STD											
Ladur 8" O.C.	1#4	1#5	1#5	1#5	2#4	1#6	1#7	1#8	2#7	1#10	
9 GA. 16" O.C.	2#4	1#7	1#8	2#6	2#7	1#7	2#6	2#7	2#8	2#9	
Medium											
Ladur 8" O.C.	1#3	1#3	1#4	1#4	1#4	2#4	1#7	1#8	2#6	1#9	
8 GA. 16" O.C.	1#5	1#6	1#7	1#8	2#6	1#7	2#6	2#7	2#8	2#9	
Extra Heavy											
Ladur 8" O.C.	1#3	1#3	1#3	2#3	1#3	1#3	1#5	1#5	1#6	1#7	
3/16" 16" O.C.	2#3	1#5	1#6	1#7	2#5	1#7	1#8	2#7	2#7	2#8	

\*See DUR-O-WAL publications: Reinforcing Masonry Walls with joint Reinforcement, A Design Aid, Bulletin 83-7 and Building Reinforced Masonry Walls with Joint Reinforcement, Bulletin 84-10. Reinforcing Shear Walls with joint Reinforcement, Bulletin 85-12R. For information on the use of DUR-O-WAL to resist horizontal bending, see Bulletin 74-6.

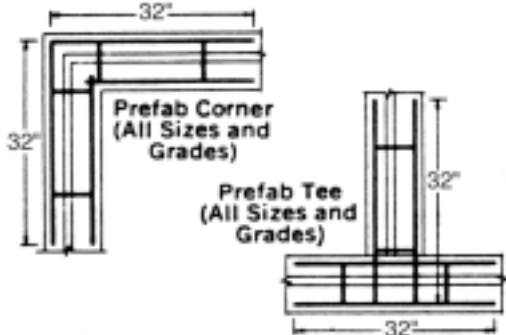
### Design Information

DUR-O-WAL Ladur type joint reinforcement may be considered as part of the required minimum horizontal reinforcement.

In many cases, the minimum steel requirement can be satisfied entirely by the use of DUR-O-WAL. In others, the use of DUR-O-WAL will reduce the amount of steel required in bond beams so as to meet code requirements. It should be noted however, that the codes also require sufficient steel reinforcement to resist all live and dead loads imposed upon the structure. But even when more than the minimum steel is required, the use of DUR-O-WAL joint reinforcement as a part of this steel will reduce the number of bond beams needed.

### Prefabricated Corners and Tees

A complete line of prefabricated corner and tee sections are available in all design types and finishes. It is necessary to designate corners as inside or outside when using Trirod or Double design types.



### Limitations/Precautions

The information contained in this publication does not constitute any professional opinion or judgement and should not be used as a substitute for competent professional determinations. Each construction project is unique and the appropriate use of this product is the responsibility of the engineers, architects and other professionals who are familiar with the specific requirements of the project.

### Warranty

Seller makes no warranty of any kind, express or implied, except that the goods sold under this agreement shall be of the standard quality of seller, and buyer assumes all risk and liability resulting from the use of the goods, whether used singly or in combination with other goods. Seller neither assumes nor authorizes any person to assume for seller any other liability in connection with the sale or use of the goods sold, and there is no oral agreement or warranty collateral to or affecting this transaction.

**Approval**



### Sales and Services Centers

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