

BauMesh Confinement Reinforcement

The NOVA Award was presented to BauMesh Confinement Reinforcement for innovation in fabricating reinforcing steel, particularly for heavily reinforced concrete shear walls and columns.



Steel reinforcing cages are critical for supporting poured-in-place concrete walls and columns, particularly in earthquake regions. These cages prevent vertical bars from buckling and bursting their concrete shell. They also help align and support vertical reinforcing during concrete placement.

In conventional concrete construction, the ties that hold reinforcing cages are made from reinforcing bars cut to length and bent into rectangles. These formed ties are costly to fabricate, time consuming to install, and sometimes inadequate in fulfilling their purpose.

In 1987, Hanns U. Baumann, president of Baumann Research and Development Corporation, developed BauMesh Confinement Reinforcement. BauMesh uses automatic welding of high-strength, cold-drawn wire to replace conventional reinforcing ties. The wire is cut and placed in jigs where it is fuse-welded at the intersections.

BauMesh streamlines reinforcing steel erection by eliminating manual tying of stirrups. It more accurately aligns and supports primary steel reinforcing, while increasing the space for concrete placement. This improves concrete quality and reduces the effects of vibration, factors that are especially important in seismic areas.

BauMesh also reduces costs. Because hooks and extensions are not used, less steel is needed than in conventional tie systems. The labor required to bend ties and stirrups is also reduced. And it takes less time to install BauMesh reinforcing cages in the field.

BauMesh was used in the San Francisco State University dormitory, a 17-story concrete shear wall structure located less than two miles from the San Andreas fault line. When the building was 90% complete, it withstood the Loma Prieta earthquake whose epicenter was only a few miles away.

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