

# Carbon fibre pendants

At this years Bauma exhibition Liebherr displayed the results of its work to develop carbon fibre pendant lines. The carbon fibre material has been developed by Carbo-Link a business spin off from the University of Zurich. The difference in weight between the carbon fibre and wire rope or steel bar pendants is dramatic, to the point that the carbon fibre pendants can be man handled by two men, eliminating the need for a support crane. So far the pendants are being fitted as standard on the HS 895HD duty cycle crawler crane and offered as an option on the LR1300 crawler. According to Liebherr, the weight saving allows

an extra six metres of boom to be self erected as well as providing improved lifting capacities in the stability part of the load chart.

The pendants incorporate a built-in helix that helps deflect side winds down the length of the pendant avoiding the fatigue problems associated with steel bar pendants



The carbon fibre pendant has a built in Helix to deflect wind.

where side winds can cause vibrations which lead to premature failure. Wire rope pendants have a natural



The three alternatives: A section of an HS895HD wire rope pendant, a steel bar pendant and the new 895 carbon fibre pendant.

built in helix design of course. The cost of this new carbon fibre technology is currently prohibitive for most large applications, with the material still being produced along laboratory lines. However

Liebherr expects the costs to fall as volume increases and it goes into industrial production. Eventually it is possible to imagine booms, jibs and other structures being made from this material.

## A better way to demolish chimneys

In our last issue we carried a series of three photographs of an excavator suspended from a large mobile crane while it hacked away at a tall chimney. The photos elicited a large number of letters most of which condemned the method. (See letters page 54) One letter though included details of a 'state of the art' method, which given the interest expressed in our photographs, we are showing here.

The device is known as the Bierrum Spider, based on an original idea from the late Joe Pendrich, but developed extensively by Bierrum

International. The device is intended for chimneys in locations where the use of explosives would cause a problem.

The machine uses a modified loader crane arm equipped with a hydraulic breaker and power pack. The crane and breaker unit is mounted on a six telescopic legged cruciform structure. The device is usually assembled inside the base of the chimney and then winched to the top on its six legs which are suspended from the chimneys windshield. The legs are adjusted to follow the taper of the chimney.

A walkway is suspended on the outside of the chimney from the same anchor points as the inner cruciform and the circular parapet is sealed against the external surface of the chimney to prevent any material from falling outwards.

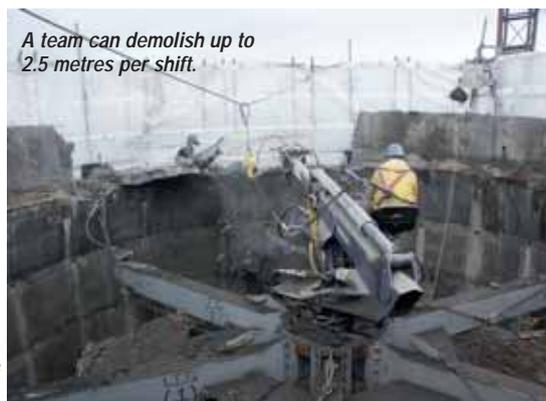
The machine cuts the chimney wall into manageable chunks which are then lifted down either inside or outside of the chimney. Most chimneys have a brick lining which Bierrum suggests is removed first with a suspended platform. This is because the bricks will often contain heavy metals and will need to be disposed of differently from the external concrete which can be recycled.

The device requires a team of about

six men: one operator, three outside to lower and clear material and two on the ground. Progress of 2.5 metres per shift can be achieved but the average is closer to 1.5 metres a day.



The Bierrum Spider fits inside the chimney



A team can demolish up to 2.5 metres per shift.



Detail of one of the spiders

## enquiries

To contact any of these companies simply visit the 'Industry Links' section of [www.vertikal.net](http://www.vertikal.net), where you will find direct links to the companies' web sites for up to five weeks after publication.

To have your company's new product or service displayed in the 'Innovations' section of C&A, please send in all information along with images to either: Innovations, Cranes & Access, PO Box 6998, Brackley, NN13 5WY, or alternatively by e-mail to: [info@vertikal.net](mailto:info@vertikal.net) with 'Innovations' typed in the subject box.

# Reliability defined

**TEUPEN**<sup>®</sup>  
ENGINEERING EXCELLENCE



*Compact dimensions allow every Teupen model to pass through standard doorways, whilst the tracked chassis creates low ground bearing pressure to eliminate damage to floors.*

**Sales • Hire • Service**

## TEUPEN (toy-pen),

- noun machine of innovative design; of unique construction; of outstanding quality and reliability; of superior performance; in a class of it's own; the benchmark to which all others aspire; of enviable reputation.

- adjective german; teutonic; superior; outstanding.

**DERIVATIVES:** non; not to be mistaken; one of a kind; the pinnacle.

**ORIGIN:** West Germany; generally associated with engineering excellence.



[www.tracked-access.co.uk](http://www.tracked-access.co.uk)  
[www.teupen.uk.com](http://www.teupen.uk.com)  
Tel: 0870 225 5554

Manufactured by Teupen and distributed in the UK by:- RANGER EQUIPMENT 52 Shaw Street, Whittington Moor, Chesterfield, Derbyshire S41 9AY.  
Tel: 0870 225 5554 Fax: 0207 900 2229 Email: [sales@tracked-access.co.uk](mailto:sales@tracked-access.co.uk)



WORLDLIFT INDUSTRIES AS

# The perfect combination

## DENKA LIFT AND FALCK SCHMIDT

**WORLDLIFT INDUSTRIES AS** is the result of the merger of Denka Lift A/S and E. Falck Schmidt A/S. Both companies have always been known for their high quality products. Together they are the perfect combination.

**FALCON SPIDER/NARROW**  
Compact track or wheeled lifts developed for indoor and outdoor use. Down to 0.79m wide you can access everywhere. Working height from 19 to 55m.

**DENKA TRAILERS**  
Working height from 12 to 30m. The new DLX15 is the only trailer mounted lift with jib-arm, thus combining the best of articulating and telescoping principles.

**FALCK SCHMIDT SERIES**  
Truck mounted, total weight 3500kg with working heights up to 21m, as well as highly sophisticated utility platforms mounted on truck or van.

Visit: [www.wl-industries.com](http://www.wl-industries.com)

Quality

Innovation

Reliability

Odense + 45 66 13 11 00 Holbæk + 45 59 45 55 00