
VP metall AS

**Development and manufacturing of
implosive connectors for overhead
power lines.**



www.vpmetall.no

COMPANY BROCHURE

About VP metall AS

VP metall AS is a production company based in Raufoss Industripark, Innlandet, Norway. We currently have 23 employees.

VP metall was established on 1 June 2000 and in 2021 we were acquired by the Swedish Lagercrantz Group.

Our main products are materials for line construction, line joints, tensioners, loop sleeves and repair joints. We also take on assignments within the shaping and processing of metals such as aluminium, steel, brass and copper.

The background for the line splice products is material knowledge and pyrotechnic experience in a world-leading and large industrial environment with a total of approx. 2500 employees here at Raufoss.





Certified

We are qualified in accordance with ISO 9001 and ISO 14000.



Approved

From 2011 all our implosive connectors are approved for CE marking. Each type of connectors has its own CE-number, which are marked on the connector and on the boxes.



Qualified

VP metall AS is qualified as a supplier in Sellihca, the register for suppliers to the energy sector in Scandinavia.

Our Strengths

We are 30 employees, and our vision is that every one contributes in the development of the company in order to make our customers satisfied with our products. Through training and participation every employee shall continuously develop their knowledge in the fields that VP metall and our customers require.

01. Experience

Wide experience within machining processes and material technology.

02. Flexible

Flexible machinery covering all order sizes.

03. Network

Close relationship to the world leading research & development environment inside Raufoss Industrial Park.

04. Efficient

Short distance to suppliers of raw material and distribution network.

A Brief History

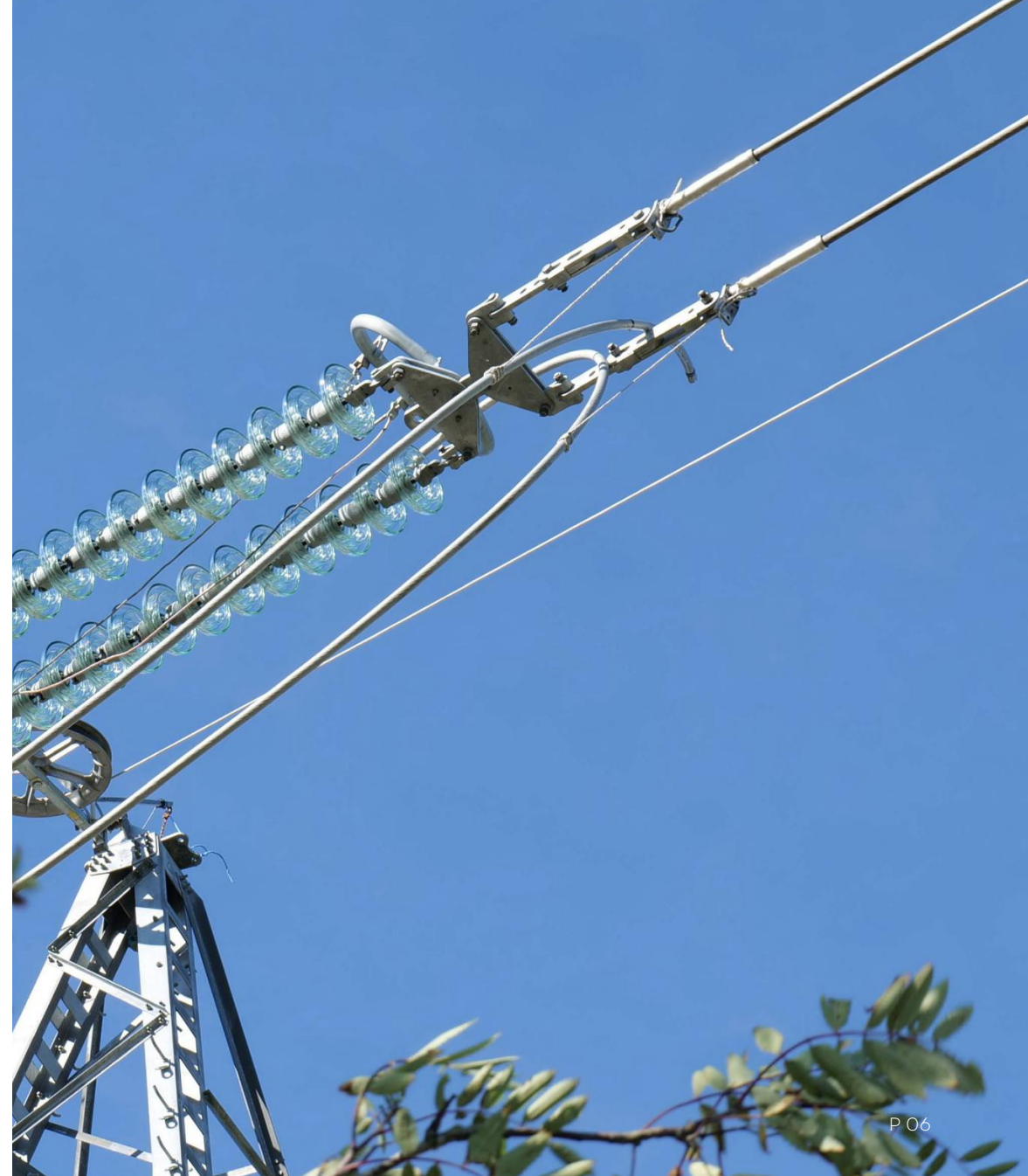
VP Metall AS was established in 2000. Implosive Connectors is a result of the expertise VP Metall AS has in metallurgy and metal working, and more than 75 years of experience on explosives at Raufoss ASA. The implosive connectors were at first developed in conjunction with Statkraft, Norwegian Defence Research Establishment and The Institute for Industrial Development. Further development was performed by Raufoss AS.

High Energy Metal Working

Implosive Connectors utilize the energy in a small implosive charge to compress a metal sleeve over conductor or wire. The pressure is applied instantaneously (1/10 000 sec.) and the compression of the sleeve and cable is performed with a high degree of accuracy.

The amount of compression depends on the kinetic energy involved and the mechanical strength of the metal parts.

Optimum compression is achieved through precise design of the implosive charge compatible with the metal components.



For Electrical Transmission Systems

VP Metall AS specializes in the development, testing, manufacturing, and distribution of implosive connectors for overhead power lines. Our product range includes full tension joints, dead ends, loop sleeves, repair sleeves, repair joints, and other conductor fittings. We sell our products to contractors and utilities in the Nordic region including Estland, as well as in the USA and Canada.





Implosive Connector Types

The Connectors can be used on dry conductor, fully greased aluminium alloy conductors and ACSR conductors with greased steel core. Connector components have been standardized to fit all

01. Full tension joints
02. Dead-ends
03. Jumper terminals
04. Repair sleeves
05. Full tension repair joints
06. Non-tension sleeves
07. Compression rings
08. Other fittings



The Implosive Connector System Provides

With this system buying, using, maintaining, storage and transportation of hydraulic presses or other compression tools is unnecessary!

01. Constant High Quality
02. Optimum Compression
03. Only Radial Deformation
04. Reduced Installation Time
05. Less Total Installed Cost
06. Faster Stringing

Facts About Implosive Connectors

01. Materials

Aluminum components are manufactured from extruded aluminum and aluminum alloy tubing. Eyebolts and steel sleeves are manufactured from low alloy steel with high fatigue strength and excellent low-temperature performance. The eyebolts are forged, and all steel components are hot-dip galvanized.

02. Strength

No filler compound is needed because compact compression provides corrosion protection.

03. Conductivity and Corona Performance

The resistance over the Connector is typically 50% of the resistance over the equivalent conductor length. The Connectors meet the heatcycling requirements of BS 3288, NEMA CC-3, IEC 61284 and CSA-C57. The smooth surface of the connector ensures superior corona performance at all EHV voltage levels.

04. Field Inspections

The Connectors are delivered with the implosive charge pre-wrapped around the aluminium sleeve and are easily installed without the need of special tools. The implosive charge is activated by the use of any commonly available initiation device such as cap no. 8 and time fuse. See the Instruction Manual for detailed instructions.

05. Quality

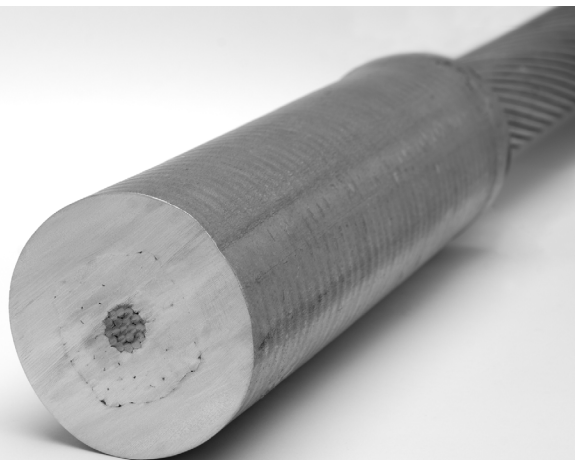
The in-place quality of the Connector is consistently superior to conventional fittings. The sleeves are perfectly straight after compression, the surface is round and smooth, and the sleeves does not elongate during compression. Consequently, no further work is required on the sleeve after compression and of course “bird cage” is an unknown phenomenon with Implosive Connectors.

06. Installation

The Connectors are delivered with the implosive charge pre-wrapped around the aluminium sleeve and are easily installed without the need of special tools. The implosive charge is activated by the use of any commonly available initiation device such as cap no. 8 and time fuse. See the Instruction Manual for detailed instructions.

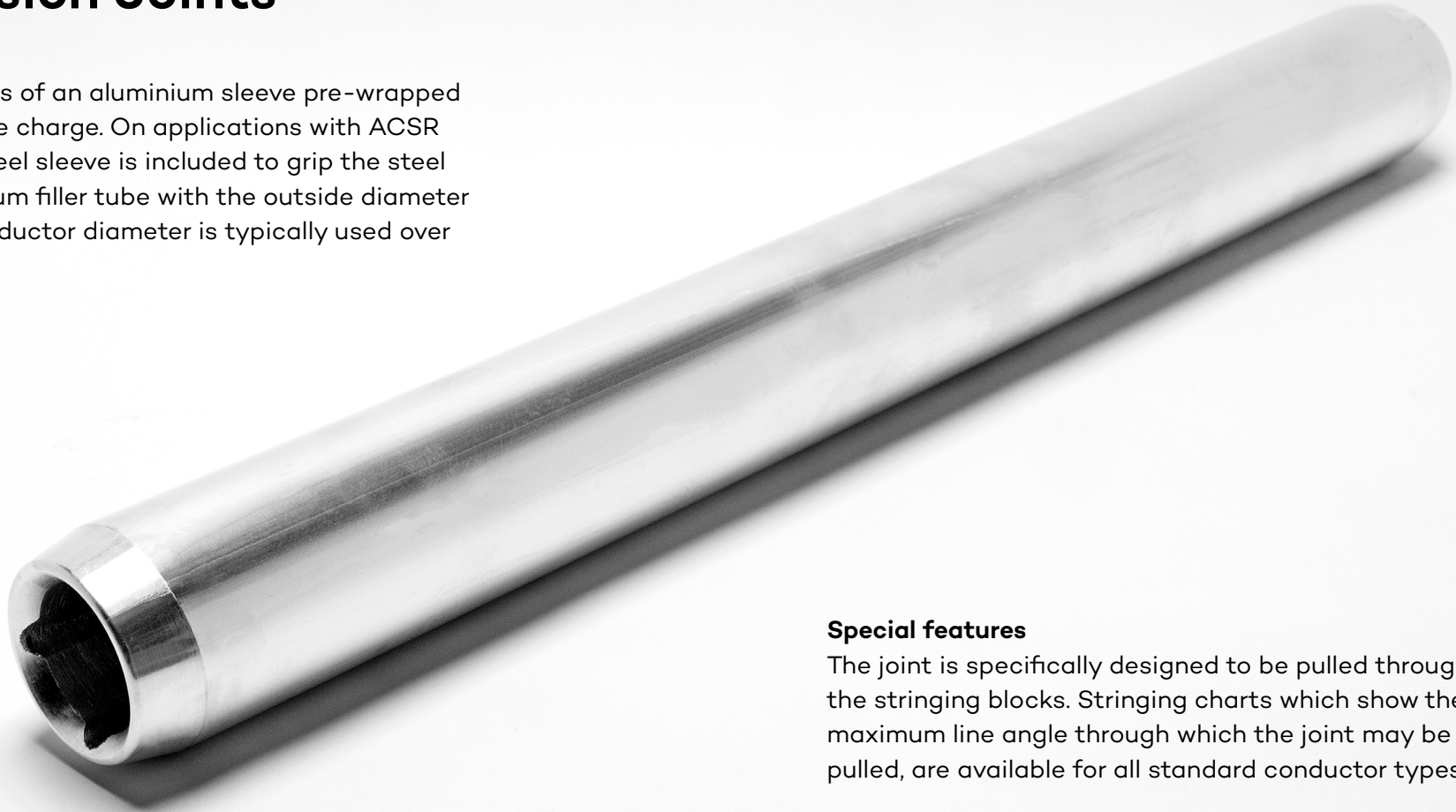
07. Corrosion Protection

No filler compound is needed because compact compression provides corrosion protection.



Full Tension Joints

The joint consists of an aluminium sleeve pre-wrapped with an implosive charge. On applications with ACSR conductors, a steel sleeve is included to grip the steel core. An aluminium filler tube with the outside diameter equal to the conductor diameter is typically used over the steel sleeve.

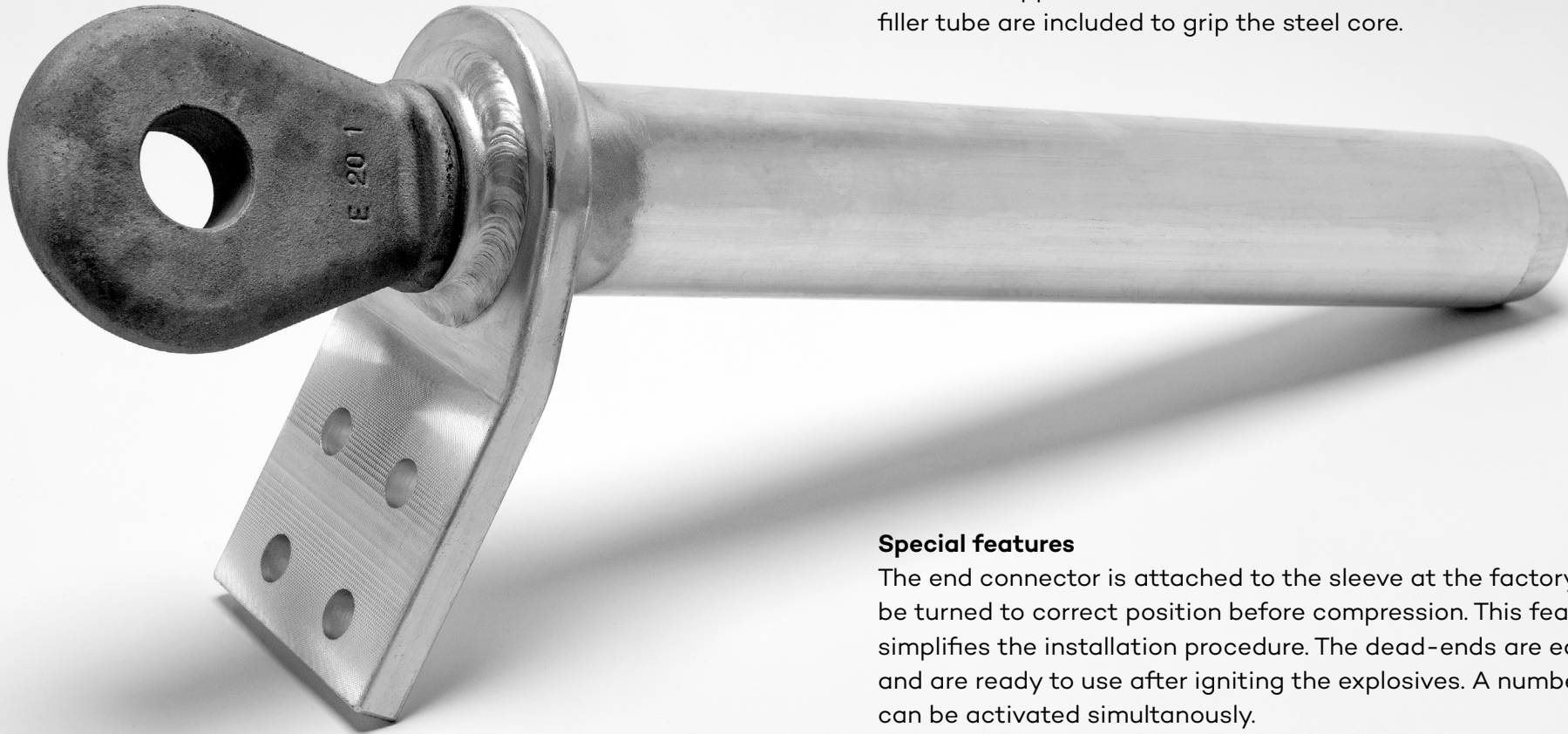


Special features

The joint is specifically designed to be pulled through the stringing blocks. Stringing charts which show the maximum line angle through which the joint may be pulled, are available for all standard conductor types.

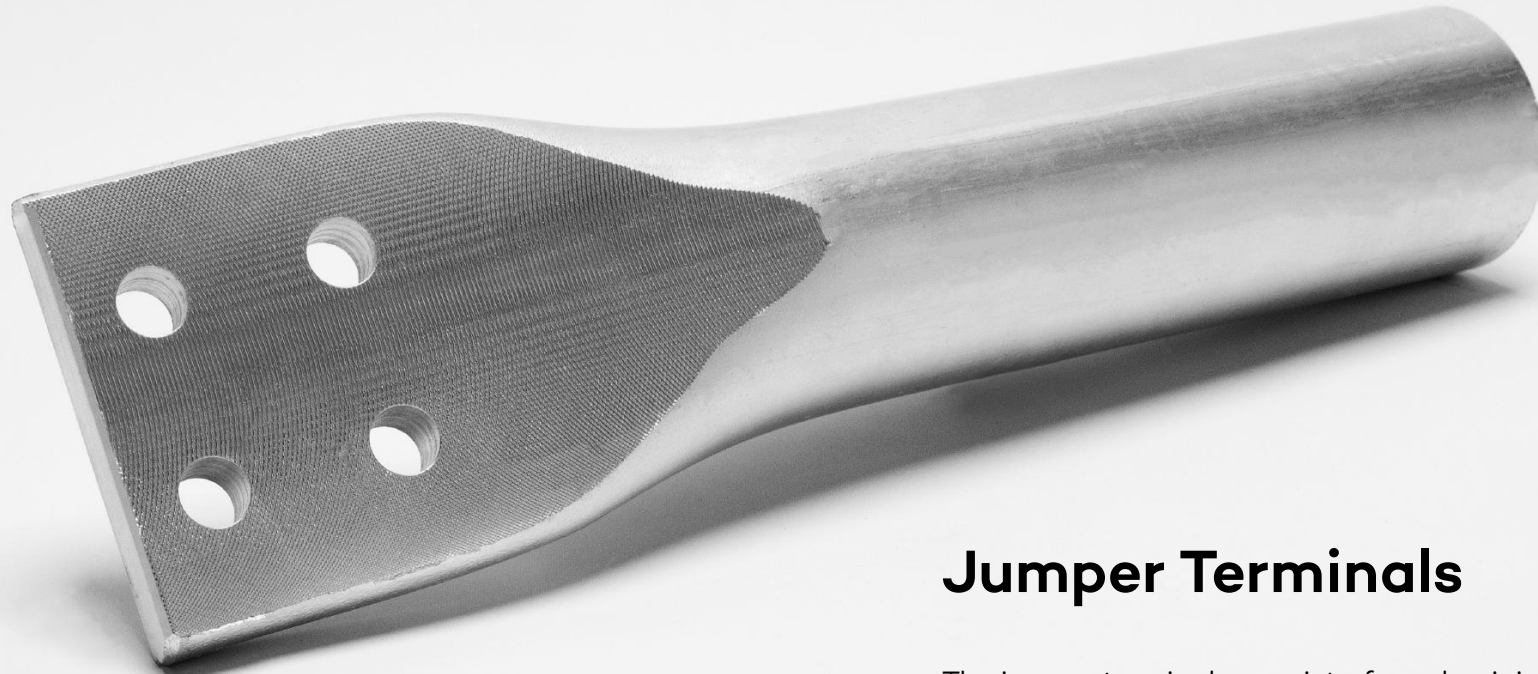
Dead-Ends

The dead-ends consists of an aluminium sleeve with a forged steel end connector. The implosive charge is pre-wrapped around the aluminium sleeve. On applications with ACSR conductors a short steel sleeve with filler tube are included to grip the steel core.



Special features

The end connector is attached to the sleeve at the factory but must be turned to correct position before compression. This feature further simplifies the installation procedure. The dead-ends are easy to install and are ready to use after igniting the explosives. A number of units can be activated simultaneously.



Jumper Terminals

The jumper terminals consist of an aluminium sleeve pre-wrapped with an implosive charge and with connector pad at one end. The pad is bent from 0°-15° and may have NEMA or other hole patterns. A number of units may be installed simultaneously.

Special features

The jumper terminals may be attached to the Dead-End pad at 0° or 30° exit angle. Cold forming of the connector pad eliminates welding and ensures optimum strength and conductivity.

Full Tension Repair Joints

Full tension repair joints may be used in replacing defective connectors/repairing conductors. The work is performed fast, possibly in the air, and without the need for additional conductor.



Additional Implosive Connectors

01. Repair Sleeves

Repair sleeves restore the conductivity of a conductor with one or more broken strands. The implosive charge is mounted on one half of the sleeve and is taped together before compression.

02. Non-Tension Sleeves

Non-tension sleeves are superior electrical joints without full-tension capability. The sleeves may be used at substations or in connection with bolted clamps.

03. Compression Rings

Compression rings are made for use in handling and sleeving large conductors and special conductors with aluminium alloy strands. They will make the installation work a lot easier.



04. Pulling Grips

Pulling grips replace socks in regions where very high pulling tension is required.

05. Guy Grips

Guy grips have been developed for all steel or alumoweld guy wire applications. The guy grips are particularly cost effective on large size wires.

Assistance & Service

We got you covered before, during and after you have applied our system to your workflow.



Field Assistance and Special Applications

VP metall will design and certify new designs for special applications and render field assistance if required.

Testing and Quality Assurance

All Implosive Connectors are tested and certified to international standards. The work is performed both at Raufoss Industrial Park's own laboratories and at SINTEF in Trondheim. The production of the Implosive Connectors are executed on basis of well established processes. Quality is ensured by control routines on materials and the metal work.

Transport, Handling & Storage

VP Metall AS provides shipping services for our implosive connectors including paperwork and compliance of special transport requirements. Products will be shipped to your desired location according to prior agreed address



Strategic Location

VP metall is situated in Raufoss Industrial Park. Here you will find the leading know-how in metallurgy and machining technology in Norway.



Our Core Products

VP metall AS develops, tests, manufactures and sells implosive connectors and utilities to contractors in the Nordic region.



Quality & Reliability

The system provides consistently high quality, easy verification of correct assembly and optimal and compact compression and connection.

Thank You

For more information see our website or
get in touch with us!

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