



bedra

SERIES-READY WIRE, PROFILE & PROCESS SOLUTIONS

FOR AI & TELECOMMUNICATION
INFRASTRUCTURE

bedra
intelligent alloys

Content

Series-ready wire, profile & process solutions for AI & telecommunication infrastructure	02
Platform application clusters	03
Solution clusters & component mapping	04
Why bedra?	05

Series-ready wire, profile & process solutions for AI & telecommunication infrastructure

AI and telecommunication infrastructure demand the highest standards in materials, geometries, surfaces and process reliability. Across datacenters, telecom sites, and edge and enterprise infrastructure, bedra supports critical hardware applications in interconnect, winding, joining and tooling. Our solutions combine alloy expertise, precision wire and profile technology, functional surface finishes and deep manufacturing know-how.

Application clusters

Datacenter platforms

Winding & inductive components

Interconnect & contact zones

Edge & enterprise infrastructure

Telecommunication site infrastructure

Enclosures, joining & tooling

Core capabilities



Materials, geometries & surfaces

- Round, flat, square, rectangular, octagonal and custom profiles
- Smooth, knurled, coated and uncoated designs
- Pure tin, barrier-layer and multilayer surface options

Application focus

- Clear structure across datacenter, telecom site and edge & enterprise infrastructure
- Hardware-focused clustering before narrowing to solution zones
- Faster path from application context to geometry, surface finish and delivery form

Process reliability

- Tight tolerances, edge-radius control and exact knurling
- Stable feed and unwinding behaviour plus exact layer winding
- Samples, documentation and qualification support on request

bedra at a glance

135+ years

of wire expertise since 1889

Own foundry

for customer-specific alloys and fast response

In-house R&D

Development and qualification support

100+ alloys

for demanding application requirements

30 million km

of precision wire and rod per year

Platform application clusters

From datacenter hardware to telecom site infrastructure and edge & enterprise infrastructure, bedra supports the hardware environments where precision wire, profile and process solutions can add value.

Applications & portfolio

- **Application environments:** datacenter platforms | telecom site infrastructure | edge & enterprise infrastructure
- **Typical hardware zones:** contact and interface zones | winding and inductive component zones | enclosure and joining zones
- **Focus in this brochure:** infrastructure-side hardware and related production environment



Datacenter platforms

Applications: Contact and interface components, winding-related components, enclosure joining and tooling-related manufacturing in data-centric infrastructure

Relevant bedra solutions: Materials for contact and interface components, magnet wire / enamelled winding wire, welding / brazing consumables in wire or rod form and EDM wire for precision manufacturing



Telecom site infrastructure

Applications: Enclosure structures, connector and interface components, joining applications and tooling-related manufacturing in telecom infrastructure.

Relevant bedra solutions: Materials for contact and interface components, welding / brazing consumables in wire or rod form, and EDM wire for toolmaking and precision manufacturing



Edge & enterprise infrastructure

Applications: On-prem, campus and branch infrastructure with compact I/O, inductive components, winding related components and enclosure joining applications.

Relevant bedra solutions: Materials for contact and interface components, coated profiles, magnet wire / enamelled winding wire, and joining solutions for enclosure and structural components.

Why bedra for AI & telecommunication

- Broad portfolio for interconnect, power, winding, joining and tooling-related applications
- Precision round, flat, square and profiled wires for compact and high-density hardware
- Functional surface finishes from pure tin to nickel or copper barrier layers and multilayer variants
- Tight tolerances, defined edge radii and stable winding/feed behaviour for automated series production
- In-house R&D and foundry expertise for alloy development and customer-specific requirements

Qualification & supply support

- Samples, documentation and qualification support aligned with the target application
- Geometry, surface finish and delivery form defined step by step with the customer
- Reliable basis for early engineering, sourcing and technical review discussions
- Clear path from first technical review to serial supply preparation

Solution clusters & component mapping

Once the platform is defined, bedra can focus on the component and process zones where wire, profile, surface, joining and EDM know-how add value.

Applications & portfolio

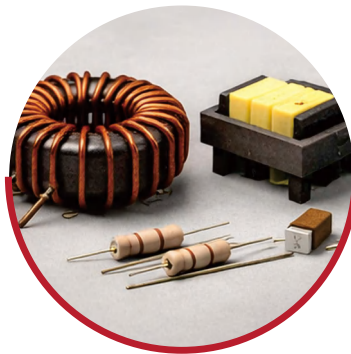
- **Solution clusters:** interconnect & contact zones | winding & inductive components | enclosures, joining & tooling
- **Typical forms:** round, flat, square and profiled wire | smooth or knurled designs | wire, rod, coil and spool delivery formats
- Tooling and EDM are shown as production-related enablers rather than device-internal functions



Interconnect & contact zones

Applications: Connector, interface, signal and power contact applications.

Relevant bedra solutions: Square, flat, round and profiled wire solutions with clean surfaces, defined geometries and coating options matched to the application.



Winding & inductive components

Applications: Bobbins, coils and winding-related components for inductive functions in servers, telecom hardware, edge systems and electronic modules.

Relevant bedra solutions: Magnet wire / enamelled winding wire, including square or octagonal profile variants, exact layer winding and insulation/coating options matched to the application



Enclosures, joining & tooling

Applications: joining applications in housings and enclosure structures, plus EDM-based toolmaking and precision manufacturing for connector and forming tools

Relevant bedra solutions: Welding / brazing consumables in wire or rod form, plus EDM and micro-EDM solutions for toolmaking and precision manufacturing

What matters in series production

- Tight tolerances, edge-radius control and exact knurling support reliable downstream processing
- Exact layer winding and stable feed behaviour reduce handling risk in automated production
- Clean surfaces and defined geometries support repeatable process windows

Documentation & qualification

- Samples, documentation and qualification support can be aligned with the target application
- Delivery form, surface finish and geometry can be defined step by step
- Technical requirements can be reviewed jointly with engineering and purchasing

Why bedra?

bedra combines material expertise, geometry competence, surface technology and manufacturing depth for AI, datacenter and telecommunication infrastructure applications.

Materials, development & foundry

- More than 135 years of wire expertise since 1889
- Own foundry for customer-specific alloys and rapid response
- Market-close R&D and application-focused development
- Broad geometry range for interconnect, winding and joining applications

Precision, surfaces & processing

- Tight tolerances in dimension, diagonal, edge radius and knurling
- In-house electroplating from pure tin to barrier-layer and multilayer systems
- Exact straightness, layer winding and stable feed behaviour
- Delivery formats for wire, coils, spools, drums and rods depending on the product family

Variety of wire geometries

Square, rectangular, octagonal, flat and round wires plus customer-specific profiles for interconnect, winding and joining applications.

High-quality surface finishing

In-house electroplating covers pure tin, nickel or copper barrier layers, multilayer systems and reflow-supported solderability options.

Winding and delivery precision

Exact layer winding, stable spool behaviour and customer-specific straightness support reliable downstream handling.

Joining & EDM support

Wire and rod formats for joining plus EDM and micro-EDM solutions support toolmaking and precision manufacturing environments.



Berkenhoff GmbH
(Kinzenbach plant)
Berkenhoffstraße 14
35452 Heuchelheim
Phone : +49 641 601 0
info@bedra.com

Berkenhoff GmbH
(Merkenbach plant)
Rehmühle 1
35745 Herborn
Phone : +49 2772 5002 0
info@bedra.com



www.bedra.com