



**HUYS**

Huys Industries Limited  
7 Vulcan Street, Toronto, ON M9W 1L3  
Telephone: (416) 747-1611  
1-800-461-9936  
Fax: (416) 747-7171  
[sales@huysindustries.com](mailto:sales@huysindustries.com)



**HUYS**

**MICRO RESISTANCE  
WELDING**

## What Is Micro Welding?

Contrary to standard resistance welding commonly used in the automotive and appliance industries, Micro welding involves the welding of non-ferrous metals and their alloys on a micro scale. These welded materials, such as copper, brass, aluminum, and nickel, are frequently used in modern sensor, energy, battery, and connection technologies.

## The Process Involves:

- Welding the smallest joints.
- Performing welds under precisely controlled conditions of force, current, and time.
- Creating connections that are mechanically & electrically robust.

When using Huys coated electrodes paired with Harms & Wende micro welding systems, manufacturers can achieve highly reproducible results even with delicate assemblies, miniature components, and thin sheets.

## COATED Electrodes:

Patent Numbers:  
US 7,538,294 B2 / CA 2,507,796/  
CN ZL200680000498.5

The Huys TiCap advantage adds the strength and toughness of Titanium Carbide in a bonded coating that enhances heat generation and reduces sticking and wear of the electrodes.

## Micro Welding Electrodes:

Eccentric, Offset, Pincer  
Probe, Rod, Straight,  
Tweezer, Unibond, Unitip

*CUSTOM ELECTRODE DESIGNS WELCOME!*



## Materials:

CuCrZr C18150  
CuNiSiCr C18000

*Glidcop* AL60, AL25

*Copper* clad Moly

*Copper-Tungsten* WCu70/30,  
WCu75/25, WCu80/20,  
WCu90/10

*Molybdenum* eforged  
Grade1  
& eforged Grade2



## Coated Materials:

TiC Titanium Carbide  
TiB<sub>2</sub> Titanium Diboride  
W, WC Tungsten & Tungsten carbide  
Mo Molybdenum

*Custom coating solutions available*

## Equipment:

Huys is partnered with Harms & Wende Hamburg to provide the most advanced resistance welding controllers and power units available. The new Primus line of micro-resistance welding controllers have advanced features including:

- **Adaptive welding control** – automatic adjustment to material variations for consistent results
- **Maximum Process Reliability** – In-spec welds from the very first spot
- **Lower Operating Costs** – Less scrap, longer electrode life, reduced maintenance
- **Maximum Flexibility** – One hardware platform for global use, aluminum, steel, and mixed-material applications
- **Audit-Proof & Industry 4.0-Ready** – Complete traceability and process data archiving



**HARMS+WENDE** **HWH**  
North America

## Huys Engineering, Consulting and Training Services:

Huys engineers have over 30 years of combined experience in industrial welding applications and are ready to help you setup, improve, or troubleshoot your welding process.

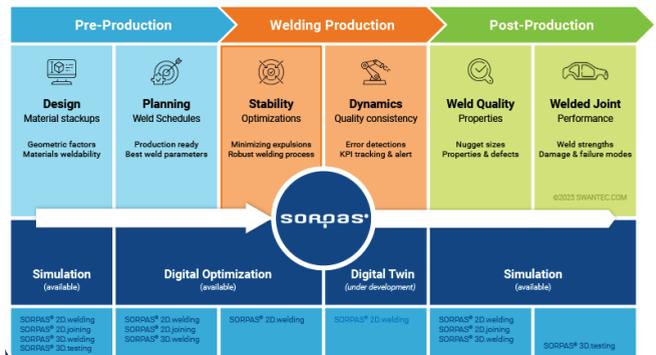
*SORPAS Advanced RSW Modelling and simulations:*

### The Three Core Technologies of SORPAS®

With continuous innovations and global industrial applications, SORPAS® is developed on three core technologies:

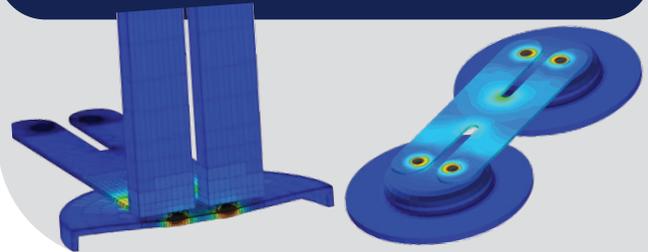
- Welding Simulation** – Trusted by OEMs over 25 years
- Digital Optimization** – State-of-the-art
- Digital Twin** – Next generation

Cutting Costs, Enhancing Quality, Stabilizing Production with SORPAS®



**SORPAS®**  
Ensure before welding™

**SWANTEC**





# HUYS

**Huys Industries,**  
founded in 1981, is  
focused on improving

the resistance spot welding (RSW) process. Our first invention, the TiCap, a titanium-carbide coated copper electrode, continues to help our customers efficiently weld coated steels and aluminum, consistently lasting longer and saving money.

With two manufacturing locations in Canada, and with over 20 patents, Huys provides innovative, cost effective, and quality solutions.

**Huys Industries'** advances in electro-spark deposition (ESD) and RSW lead the world. Our latest innovations include a range of automated ESD equipment designed for a wide range of applications in the defence, aerospace, electronics, automotive and related industries.

Huys Industries Limited  
7 Vulcan Street, Toronto, ON M9W 1L3  
Telephone: (416) 747-1611  
1-800-461-9936  
Fax: (416) 747-7171  
[sales@huysindustries.com](mailto:sales@huysindustries.com)

