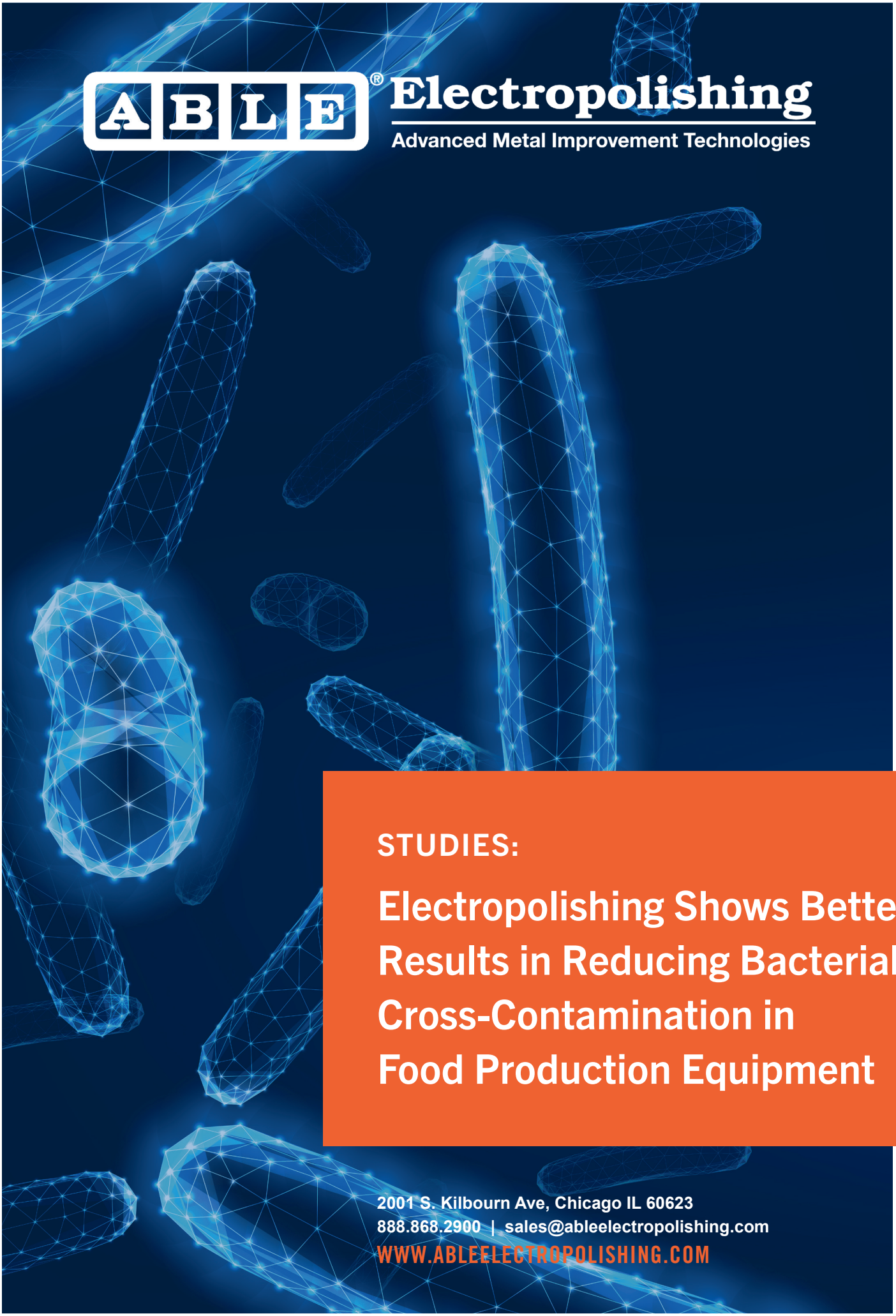
ABLE®
Electropolishing
Advanced Metal Improvement Technologies
STUDIES:
Electropolishing Shows Better Results in Reducing Bacterial Cross-Contamination in Food Production Equipment
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Bacterial adhesion to equipment in the food production industry is an ongoing and dangerous threat, with the potential to transmit serious illnesses from food-borne pathogens.

The U.S. Department of Agriculture's primary in-house scientific research agency, the Agricultural Research Service, has been studying the issue of antimicrobial resistance for more than two decades. Studies, that show the effects of various metal finishing techniques on the ability of bacteria to adhere and accumulate on types of stainless steel commonly for meat and poultry industry applications, have shown that electropolishing creates a surface finish that is more effective at repelling both the adherence of bacteria and the process by which some bacteria – including salmonella, E. coli and listeria – organize into a matrix of connecting cells. This biofilm is especially resistant to normal washing procedures and is believed to play an additional role in trapping and enabling other harmful microbes to survive.

Why is Electropolishing Effective in Creating Greater Resistance to Bacteria?

“Surface roughness plays a very important role in this process,

according to an abstract published in a journal of the American Society for Microbiology. The abstract describes the factors that make the ultrasmooth surface finish created by electropolishing effective at repelling bacterial attachment:

- **Bacteria attach more easily to the crevices and pits that electropolishing removes from the surface area of stainless steel**
- **The higher surface areas of rough areas make cleaning more difficult and provide bacteria with protection from environmental disturbances**
- **Rough areas and other surface imperfections provide a higher surface area and for bacterial attachment**
- **Metal surface imperfections that are not removed may “induce attractive electrostatic interactions”**

Additional Benefits of Electropolishing for Food Processing and Packaging Equipment

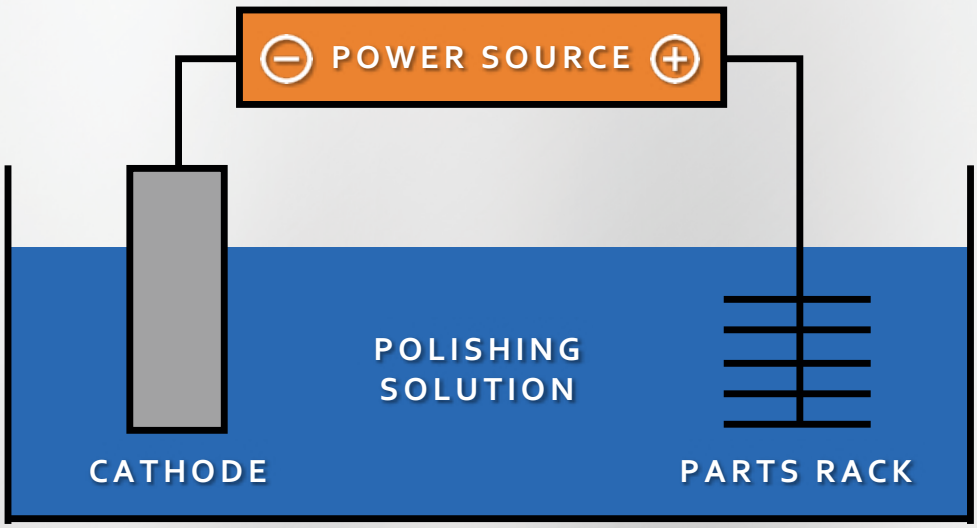
At Able Electropolishing, we are the world's largest electropolishing specialist and have a long history of electropolishing the stainless steel components used in the meat and poultry industry.

In addition to leaving parts with an ultra-clean and pathogen-resistant surface finish, electropolishing is specified for many parts used in the food industry for reasons that include:

- A smooth, clean and passive surface that is easily cleanable
- Removal of weld discoloration that can become an initiation site for corrosion
- Bright, brilliant clean appearance that lasts even after repeated cleaning
- Corrosion resistance
- Increased part longevity

> The electropolished (finish) is the most resistant surface tested from eleven different types of finish. This research has shown the importance of the surface finish for potential bacterial attachment and biofilm formation on equipment components.

- Studies by the Agricultural Research Service



The resulting bright surface is what helped give electropolishing its name

METAL REMOVAL = METAL IMPROVEMENT

ABLE® Electropolishing

Advanced Metal Improvement Technologies

To learn more about how state-of-the-art electropolishing processes and first-rate customer service can help you ensure the highest quality production of parts for the food industry including augers, wire products, process equipment, blades and more, download our technical guide, Electropolishing: Finishing for the Food Industry. You can also give us a call or click here.

We can also provide consultation in the prototyping stage to help eliminate design flaws that can stand in the way of the highest quality finishing and cleanability results.

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