



CERTIFIED  
PREMIUM  
HAND  
TOOLS



**WHITE PAPER**

# INOX TOOLS

Clean and durable

Building a safer world

**EGA** *Master*  
**ART IN INNOVATION**

*BE SAFE...BE EFFICIENT*

# INOX TOOLS

## stainless steel

**420 stainless steel contributes to lower contamination and rusting, in compliance with clean room environment requirements.**

Health & Safety is already a priority that in most workplaces. In certain work environments, health & safety can be directly related to the equipment and tools used by the employees.

EGA Master has developed a new range of stainless steel, 420 stainless steel contributes to lower contamination and rusting, in compliance with clean room environment requirements.

Property required	Where needed	Sectors	Why not carbon steel	Why stainless steel
Zero or low tolerance to contamination and particles	Sterile production in critical environments	Laboratories	They can only be sterilized few dozens of times, as the chrome plating used to avoid rust will deteriorate and chip off with time, contaminating the process	Materials and finishing used in their production enables sterilizing them thousands of times
		Biotech and biomedical		
		Cleanrooms		
		Pharmaceutical		
		Nutrient production		
		Nuclear industry		
		Silicone wafer production		
		Food processing		
Avoiding premature rust of parts by particle contamination	Using tools on Stainless Steel components such as screws, nuts, washers, pipes, bars, etc	Ship building	Carbon steel tools can leave small particles on stainless steel components, which will get contaminated, and make them rust	Stainless steel tools will not contaminate other SS components and thus not make them get rusted
		Construction		
		Manufacturing		
		Automotive		
		Aeronautics		
		Marine applications		
		Power		
		Chemical Industries		
Increasing tool lifetime	Corrosive environments	Naval ( vessels /ship maintenance)	Carbon steel tools, even when they are chrome plated, will rust quickly in highly corrosive areas, leaving them unusable and having to replace them frequently	Stainless steel is a low carbon steel enriched with above 10% chromium, which allows the formation of an invisible chromium oxide layer that protects the core from rusting. Even when the layer is damaged chemically or mechanically, the oxygen of the environment will repair the layer again
		Subaquatic		
		Offshore (Oil & Gas/ Wind Power...)		
		Nuclear Power plants		
		Chemical industries		
		Humid environments		
		Wet processing		
		Water desalination		
		Salt production		
Water treatment plants				

Like with carbon steels, there are dozens of different stainless steels, each of them presenting different properties for different applications. Some are more resistant to rust, some other are stronger, some harder... But none of them is best in all properties.

EGA Master has chosen 420 Stainless steel for the manufacturing of its tools, since it is the one that offers the best combination of all properties important for the manufacturing and use of stainless steel tools:

**EGA Master has chosen 420 Stainless steel for the manufacturing of its tools, since it is the one that offers the best combination of all properties**

<b>Hardness</b>	38-48HRc
<b>Tensile Strength</b>	≥ 635 N/mm <sup>2</sup>

PROPERTIES	APPLICATION & BENEFITS
<b>Avoiding contamination</b>	No iron or chrome-nickel contamination
<b>Sterilization</b>	Thousands of sterilizing processes
<b>Durability</b>	Combination of hardness, resistance and antirust protection makes it most durable
<b>Cost</b>	Being a mass production alloy together with having good manufacturing properties makes it most cost effective for tool manufacturing

MAT: 420		
<b>Composition</b>	C	0,16-0,25%
	Mn	≤ 1,00%
	Si	≤ 1,00%
	Cr	12% – 14%

In EGA Master we believe that prevention is the most effective measure to increase safety and reduce costs and inefficiencies in workplace operations. Eliminating the risk of ferrous transfer is a key factor for increasing profitability on the long term, while keeping processes, and people, safe.

**CAUTION** 

These tools are not classified as non-magnetic but tools made of martensitic – ferromagnetic stainless steel whose magnetic permeability is much higher than the unit.



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## stainless steel

### QUESTIONS AND ANSWERS

#### 1- What grade of Stainless Steel should be considered when purchasing INOX tools?

There are multiple types of stainless steel, some more resistant to rust, some other are stronger, some harder. There isn't a single type that is the best across all properties, so the application or field of use of the tool determines which is the best type for that application.

EGA Master's INOX range is manufactured with 420 Stainless Steel, which is the type that offers the most balanced combination of all properties. This range has been developed with the needs of food & beverage companies and laboratories in mind. The products are therefore more durable when used in activities that require sterilization.

#### 2- Can handles used in INOX tools also be disinfected?

EGA Master's product range is the most complete in the industry. We always strive for offering a one stop solution to our customers, and therefore we offer different types of INOX tools, including those 100% made out of INOX material, and those that maintain plastic components such as, for example, plier or screwdriver handles.

For environments where the products need to be sterilized or disinfected, tools that are 100% made out of INOX would be the ones recommended.

#### 3- Which are the main applications for INOX tools?

INOX tools are best suited for environments sterilization of the tools, need to avoid othe particle contamination or corrosive environments that involve soft acids.

Some of the industries that commonly have such requirements include the food and beverage, laboratories, pharmaceutical industry or the nuclear industry.

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#### 4- Which are the main benefits of INOX tools Vs Carbon Steel tools?

The following are the main properties and benefits of INOX tools:

- Avoid contamination
- Resist thousands of sterilization processes
- Increased durability as a result of the hardness, resistance and anti-rust properties
- Good cost benefit ratio considering it is and allow that is mass produced and has good manufacturing properties.



## PRESENTATION

EGA Master is a Spanish manufacturer committed to keeping field workers safe and efficient.

Born as specialists in Piping Tools, EGA Master has steadily diversified into other fields. At present the company has become a world leader in the safety category and manufactures tools and equipment for the most demanding industries such as automotive, aerospace, shipbuilding, construction, oil, gas or mining.

**The EGA Master proposition is sustained on 3 key pillars:**

- **One Stop Solution:** EGA Master is currently the only manufacturer that offers a one-stop solution for the industrial end-user with these 10 product ranges: Hand tools, Pipe tools, 1000V Insulated tools, ESD Electro Dissipative tools, Non-sparking and Titanium tools, Anti-drop tools, Tool control system, Hydraulic and Pneumatic Underwater tools and ATEX-certified Intrinsically Safe/Explosion-Proof Instruments.
- **High Quality:** EGA Master manufactures for more than 100 different brands, including some of the leading manufacturers in the industry.
- **Quick Service:** As a result of EGAMaster manufacturing model and investment in stock, the company is able to provide an availability level above 98% across the 150 countries the company distribute to.

Some end users of EGA Master tools include companies and institutions such as Exxon Mobil, Shell, Airbus, United Nations, NATO, Coca Cola, Audi, Volkswagen, Nissan-Renault, Siemens or Philips (<http://www.egamaster.com/en/what-our-customers-say>).

Nowadays, EGA Master:

- **Exports around 90% of its production to more than 150 countries** across five continents.
- **Has over 200 patented products developed entirely by its R + D + I department**, in which invests more than 6% of its resources.
- Provides unlimited life time guarantee for all its hand-tools.
- Holds, among others, the **ISO 9001, ISO 14001 and OSHAS 18001 certificates** and has been a pioneer in its industry in the implementation of the European EFQM model of Total Quality Management.
- It is the most awarded tool manufacturer, as evidenced by the long list of awards that the company has received since its foundation.



# INOX TOOLS

stainless steel

## SOME END USERS

**Amy Yang**  
Procurement  
**KBR (USA)**

"KBR was very pleased with EGA Master's responsiveness during the bidding phase and performance throughout the execution phase of the order. EGA Master exemplified excellent customer service, attention to detail and quality work which allowed the order to be inspected and delivered successfully and on-time."

**Pedro Henriques**  
Purchasing Manager  
**TAP Engineering and Maintenance (Lisbon and Brazil)**

"EGA Master has been in this last 4 years a great support for TAP Engineering and Maintenance in Lisbon and Brazil. Key factors as top quality, delivery time, versatility, whether in manufacturing special tools out of catalogue or in customized tools according to our directions, and constant innovation turned EGA Master into strategic partner with whom we can always trust in any situation. For all this, we can only recommend to our business partners in the aviation branch to bet without fear in a complete cooperation with EGA Master."

**Glauber Lima Fraga**  
Projects Department Head  
**Eletropaulo (Brasil)**

"The persistence shown by EGA Master to find a solution that would meet the customer's needs is a clear evidence of EGA Master's commitment to fulfil the needs and requirements of its customers."

**Eng. Edmundo Homero Cacho**  
**Volkswagen, Puebla (Mexico)**

"EGA Master's service is fast and effective. We believe that in EGA Master we have a supplier we can trust to find solutions to our needs."

**Chantramohan Suparmaniam**  
Production Manager  
**Mercedes-Benz (Malaysia)**

"EGA Master is a trusted supplier that offers us the best service in the industry. We see EGA Master as a key partner for us going forward."

## TESTIMONIALS





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