



QUALITY MADE BY STIHL

STIHL applies its high quality standards to every phase of a product's life cycle - from the spark of inspiration in development and precise execution in production, right down to our service once the product is in the hands of our customers. The following pages provide an insight into STIHL's quality promise using the STIHL MSA 220 T battery-powered chainsaw as an example.

The quality of STIHL products is not confined to a single moment in time. Instead, it represents a continuous process that extends over all phases of our products' lives. Three phases in particular have an impact on the durability and quality of our products: development, production, and use.

STIHL products undergo continuous quality assurance over all phases of their life cycle, demonstrating that quality is a fundamental commitment at STIHL.

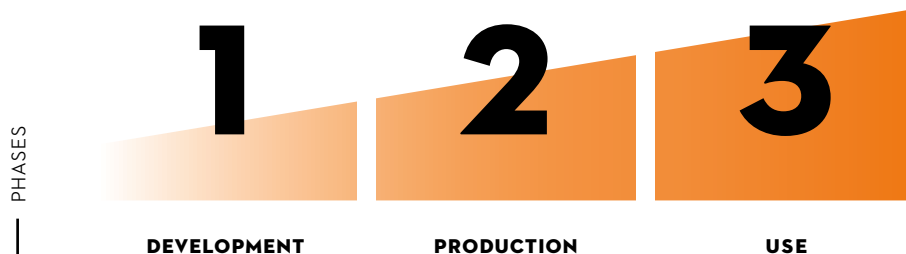
The STIHL MSA 220 T, which is used with batteries from the AP series, is part of the product segment for professional users. Thanks to its high cutting performance, the battery-operated saw is designed to efficiently handle demanding jobs carried out by gardening and landscape

maintenance professionals, as well as by tradespeople. The precise development and manufacture of each individual part, along with the after-sales service provided by authorized dealers, ensure that the MSA 220 T meets all stringent quality standards and guarantees maximum durability and reliability.

For STIHL, the quality of our products is more than a promise. It is an enduring commitment that is woven into every phase of the product life cycle, enabling us to continue writing the STIHL success story day after day, product after product, based on our concept of quality. The pages below take a closer look at this concept by examining the above-mentioned phases in a product's life, using the STIHL MSA 220 T battery-powered chainsaw as an example.

QUALITY IN ALL PHASES OF LIFE

QUALITY MANAGEMENT THROUGHOUT THE PRODUCT LIFE CYCLE OF THE MSA 220 T





The rain test demonstrates the robustness of the battery pack when used in wet weather.



»We carry out a large number of tests during the development process to ensure the performance, safety, and robustness of our products.«

DR. DANIEL SAUERTEIG
System Development

1

DEVELOPMENT CONSTANT SCRUTINY

The development phase of our products, such as the STIHL MSA 220 T or the AP 500 S battery pack, is a cornerstone of our product quality. It is driven by the research work and innovative spirit of our employees, who meet the highest quality standards in the process. As part of this process, every innovation is put through its paces.

This is done by planning intensive trial and test phases for each product. Apart from trials in a real-world environment, such as sawing jobs, products undergo numerous other tests – like battery packs from the AP series being cooled down to their minimum operating temperature in a freezer to ensure that the system works even at the lowest of temperatures.

Tests like this during the development phase ensure that our products can be improved incrementally and honed for mass production. In doing so, STIHL ensures that every product meets the needs and demands of our customers at market launch.



2

PRODUCTION CLEANLINESS IS KEY

The quality of our products takes concrete shape during the production phase. At all international production facilities within the STIHL manufacturing network, qualified employees turn the ideas from the development phase into reality. Every component is made with the utmost precision. Modern production techniques and stringent quality tests ensure that every part of the STIHL MSA 220 T and all other products meet our quality standards.

A crucial aspect to quality during this phase is industrial cleanliness, i.e. the cleanliness requirements for products and production environments. This ensures that our tools and their components are clean according to defined standards and remain so during the production process, which in turn guarantees reliable operation for users.

Industrial cleanliness is also of the utmost importance on our battery assembly line, where the batteries from the AP series for the STIHL MSA 220 T are manufactured. To check environmental cleanliness there, devices known as particle traps are laid out and then analyzed in a clean room. The analysis includes the size, number, and type of the particles. The findings can be used to ensure environmental cleanliness on the battery assembly line.

WHAT IS A CLEAN ROOM?

A clean room is a physically separated area in which the air purity – measured as the number of particles per cubic meter – is maintained according to defined standards and is therefore not affected by environmental factors. In the clean room at the STIHL founding company (Plant 1), particle analysis is carried out to monitor production and as part of special measurements.



Framed particle filter from the clean room with separated particles



»Monitoring environmental cleanliness on the battery assembly line using particle traps makes a major and important contribution to ensuring the highest quality in our battery products.«

DR. BENJAMIN SCHWARZ
Quality Management

»We start analyzing all service aspects in the development process using preproduction samples. This enables us to think about the service associated with our products even before our customers get hold of them.«

MARTIN BAUM

Senior Technical Service Manager



3

USE

SERVICE CREATES LONGEVITY

The use phase is the moment of truth. The STIHL MSA 220 T and its AP series battery packs have to prove themselves on the job. It's not just about sheer performance. Durability and resilience under a wide range of conditions are also important. Thanks to the more than 55,000 authorized STIHL servicing dealers worldwide, we also provide after-sales support to our customers consisting of advice, training, and repair offerings.

However, our service spirit starts much earlier. All service aspects, from maintenance to spare parts, are already considered during the development process. This leads to a design that is as service and customer-friendly as possible, allowing users of the STIHL MSA 220 T to clean the air filter, replace the hinged carrying ring themselves, and so on.

Continuous analysis of end customer satisfaction and serviceability shows that our quality promise does not end with market launch. Instead, it reflects an ongoing process that is responsible for the ongoing optimization of product quality and the resulting customer satisfaction.














































































4.5 OUT OF 5

STARS was the average rating of machine products in the STIHL online store in 2023. STIHL analyzes the ratings at product level and responds to corresponding trends by analyzing root causes and taking measures to improve the quality of its products.

QUALITY FACTS

    
    
 SEVERAL
 HUNDRED
 BATTERY
 PROTOTYPES
 ARE
 ASSEMBLED
 FOR TEST
 PURPOSES.
    
    
    
    
    
    
    
    
    
    
    



PARTICLE TRAPS

are analyzed using an optical microscope, with 256 individual high-resolution images being shot automatically.

7 DAYS

is the typical time span for a **PARTICLE TRAP**.

50+

DIFFERENT TESTS are necessary to check all the requirements for a STIHL battery pack.