

METAL GRAF®



FOR HIGH PERFORMANCE DIESEL AND GAS ENGINES



DEVELOPMENT FOR NEXT-GENERATION ENGINES

- ▶ **INTERNAL INSULATION**
High Compression with graphite coating.
- ▶ **EXCELLENT THERMIC ENDURANCE**
It endures the highest pressures and temperatures.
- ▶ **COMPLETELY NONSTICK**
- ▶ **BETTER ADJUSTMENT**
to irregularities in heads and/or blocks.
- ▶ **GREATEST ENDURANCE**
to chemical aggression of antifreezes and synthetic oils.
- ▶ **BETTER RESPONSE**
to engine contraction and expansion.



- ▶ Superficial electrostatic coating®
 - ▶ HT neutral sealant bead®
 - ▶ Permanent Torq Tech®
 - ▶ Graphite internal bath®
- Product suitable for engines fitted CNG and FLEX

TOP GRADE: Product tested according to the following international standards: SAE 921484, DIN 52913, ASTM F36 y ASTM F37. All production is realized under careful quality control throughout the entire manufacturing process. This product has the combination of last generation O.E.M. materials and maximum quality. Quality Management System ISO 9001:2015 (243918-2017-AQ-ARG-RvA).

With the MetalGraf® line, we get the balance between the Standard Gasket (fiber) and the Multilayer Gasket (MLS), assuring the perfect fitting of pieces thanks to its exclusive design.



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A MARKET IN CONSTANT EVOLUTION

Each explosion engine requires a specific concept of gasket. To respond this requirement ILLINOIS offers, in addition to the **TC PRO®**, manufactured with fiber compound, the new line **Metalgraf®**, especially designed for new engine concepts.

Unlike the MLS (multilayer) gaskets, the **Metalgraf®** can compensate the increased roughness that have the engines of the after sales market on their head and block surfaces. The **Metalgraf®** gasket resists the most severe working conditions, enduring the highest pressures and temperatures thanks to its exclusive design that reduces the average values of contraction and expansion in bimetallic engines.

THE PROBLEM

Do you know which would be the correct choice when deciding a spare of MLS gaskets (multilayer)? Apparently, the logical choice seems to be an original equipment gasket. But if we go into this topic in depth, we will find these gaskets were developed and designed to seal a new engine with a surface / roughness of at least 40 Ra.

How will a MLS gasket work in an engine of the replacement market? In the after sales market, engines suffer changes in their materials and components, adding that later they will get a rectification with a greater roughness finish than that of the manufacturing original.

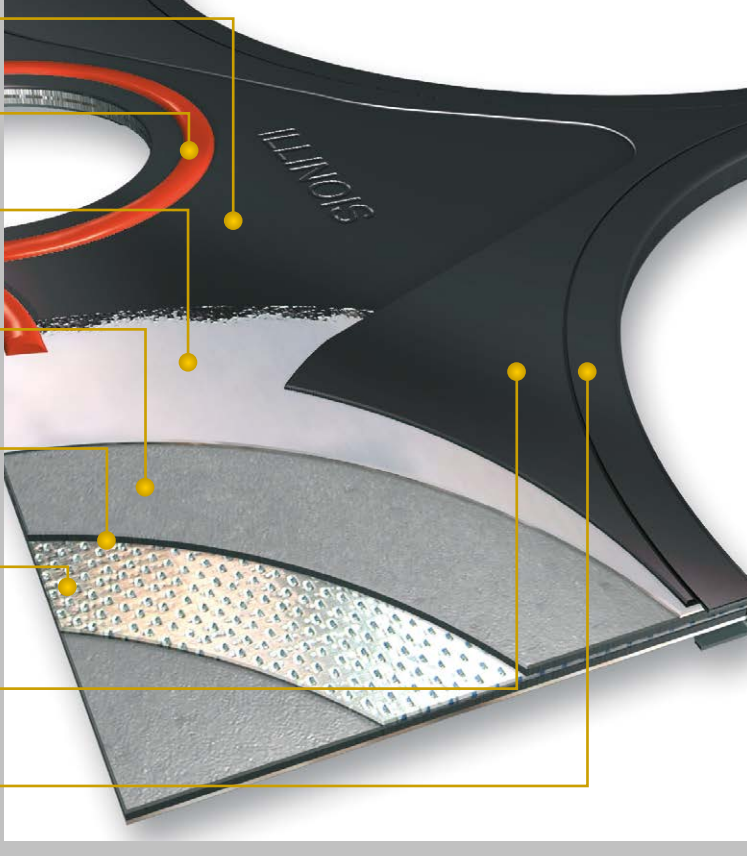
THE SOLUTION

Experts in the replacement market of Juntas Illinois have found the answer to the problem: **the new MetalGraf® head gaskets.**

Nowadays, engines with greater power and compression need high-performance head gaskets which demand a specific technology. Higher and variable operative temperatures, greater combustion pressure and the constant movement between the cap and the block in bimetallic engines require an ideal concept of gasket. The technical strength of **MetalGraf®** guarantees effectiveness and reliability in the entire system under the most severe working conditions, especially when dealing with spark ignition engines of high performance and direct injection diesel engines.

METAL GRAF

- 1- SUPERFICIAL ELECTROSTATIC COATING**
It works as a slipping between the head and block surfaces to reduce the effects of contraction and expansion, with no detriment to the sealing.
- 2- SEALANT CORD**
High prominence sealant cord (AT silicone) which goes around the critical sealing points. It eliminates completely the use of additional sealants.
- 3 - FUNCTIONAL COATING**
Steel sheet with coating produced by electrolytic processes. It eliminates the capillarity in the gasket material, optimizing traction endurance and improving the mechanical properties in both longitudinal and trasverse directions.
- 4- SUPERFICIAL GRAPHITE BATH**
It allows the internal gasket section to work independently to counteract the effects of tearing provoked by the contraction and expansion of the materials.
- 5- HIGH-COMPRESSION THERMIC INSULATION**
Based on different fiber compounds and synthetic materials densified. It acts as a compensator of the irregularities of the cap and/or block forming an elastomeric cushion.
- 6- METALLIC CORE**
Metallic core with high and low rectangular drillings that act as a mechanical block over the compressed material. It offers excellent physical properties, allowing a high product recovery.
- 7- STOPPER**
Perimeter circuit over the path of combustion chamber which works as a gas sealant and a limiting agent to the vibrations produced by it.
- 8- FLAME RING**
Circular section ring which goes around and strengthens the cylinders, providing greater endurance over one of the critical sealing areas.



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