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PISTON RINGS

Acc. to their function, piston rings meet very complex requirements of the motor (sealing, heat transfer, oil transport with forming of thin oil film between the piston and the cylinder), so their production is complex and with strict requirements.

"MOTINS" produces all kinds and types of casted piston rings acc. to the technology of the European manufacturers.

Adopted local standards for materials used for production of the piston rings are completely reconciled with ISO and DIN standards and local standards of GOETZE (FEDERALMOGUL) company.

Casting is performed acc. to the technology and on the equipment of the most important European manufacturer. Machines for machining of sand moulds and system for preparation the sand mixture of Swiss company GEORG FISHER belong to the most modern equipment.

Machining of the piston rings is performed on the most specialiyed equipment of German and Swiss producers (DISKUS-WERKE, DIMACO, REINEGER, PLEIGER etc.) which guarantee the highest quality. Piston rings are machined to oval shape (providing natural and permanent radial pressure and good sealing).

Outside sliding surface is, due to higher resistyance to wear, chromium plated of molybdenum plated for compression piston rings and chromium plated and profile-ground for the oil ones. Rings are protected against corrosion by phosphating, tin plating and ferrooxidation. Range of diameters of the piston rings manufactured by "MOTINS" is very wide from Ø20 to Ø360 mm.

Besides piston rings, "MOTINS" includes in their production program wide selection of seal rings of different construction.

High quality of piston rings proves good reputation of "MOTINS" among European manufacturers of these complex elements of the piston-cylinder assembly (export of 70% production to the European market).



RIBBED CYLINDERS

Ribbed cylinder is an immobile part of the piston-cylinder assembly where process of transfer of thermal energy of fuel into mechanical operation is performed at an internal-combustion engine, or process of compressing of certain medium at compressor.

Due to the important function of the cylinder, material for producing cylinders must have good mechanical and sliding properties, homogeneity (they are tested to pressure of 6 bars for two-cycle motors and 15 bars or more for four-cycle motors), high resistance to wear, good machineability, etc. Special modified casting CSL-1 meets these requirements acc. to MOTINS local standards which fit to DEUTZ and MERCEDES standards.

Ribbed cylinders have specially machined ribs which take over heat from the cylinder wall and, due to large surface, transmit it efficiently to the surrounding.

Due to its complicated outer configuration (long and thin ribs, cylinders for two-cycle engines with their intake, exhaust and overflow canals which are not machined) casting mould is a shell with cores (SHELL-MOLDING procedure).

Shells and cores for casting of cylinders are made of arenaceous quartz covered with phenol-formaldehyd resin. Machining of shells is performed on the machine of germa company RÖPERWERK.

After casting and cleaning cylinders are anneled (except cylinders for two-cycle motors) in order to remove strain occured during hardening and after casting.

Machining of the cylinders includes machining of mounting and functional measures and it is performed on CNC machines. Special attention is paid to the quality and measures of the inner opening with regard to its functional importance.

Accuracy of measures, shape (conical and oval) and machining quality are obtained by fine boring on the special KRAUS boring machines.

Long-range cooperation with TOMOS, the only manufacturer of motorcycles at the balkans, and with the most famous European manufacturer of motor scooter PIAGGIO says enough about the quality of the ribbed cylinders manufactured by MOTINS.

MOTINS production program includes about 40 various ribbed cylinders, having diameter range from Ø36,5 to Ø130 mm.

