

Cylinder reconditioning on aluminium cylinder blocks



Fig. 1

In the event of cylinder damage on aluminium cylinder blocks, it is often a problem that the cylinder block seems to be irreparable due to a lack of suitable repair materials. The high costs of procuring a new or reconditioned cylinder block mean that in many cases it is not economical to carry out a repair.

MSI offers unfinished, Alusil® cylinder sleeves (Fig. 1) for reconditioning aluminium cylinder blocks. Two sleeves are available in different sizes for machining the required liners (see Fig. 2). Whether or not an aluminium cylinder block can be reconditioned, depends primarily on the extent of the damage and on the structural design and condition of the cylinder block.



Please note:

Alusil® liners cannot be used on engines with nickel-coated cylinder running surfaces (e.g. Galnikal®, Nikasil®), as Alusil® liners are designed to be used together with iron-coated pistons (Ferrocoat®).

Pistons without an iron coating, which are used in engines with nickel-coated cylinder running surfaces, are not suitable for the use in Alusil® cylinders.

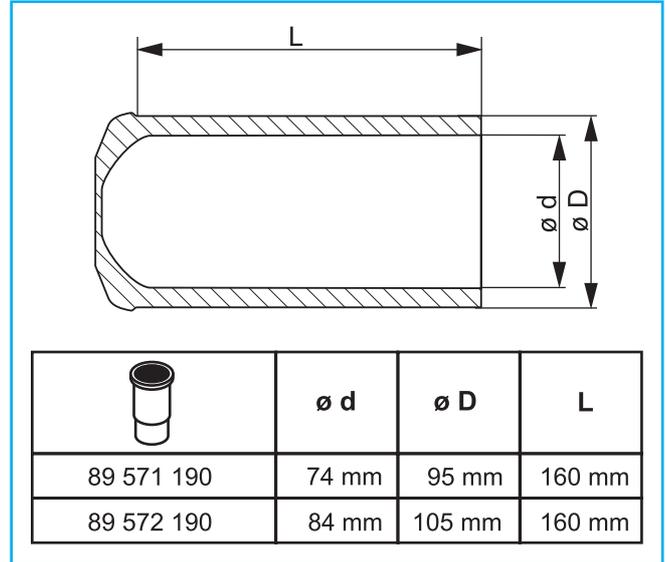


Fig. 2

The material composition of the Alusil® sleeves is identical to the composition of the original Alusil® cylinder blocks. This ensures that, even after repairs on just one single cylinder, the running properties will remain the same on all cylinders (provided the finish-machining stage is performed correctly).

Details on the installation and machining of the sleeves can be found in our brochure "Reconditioning of aluminium engines". There you can also find tables with dimensions and measurements which will be useful when machining the liners.

If no dimensions are available for a given repair, the sleeves can also be machined using the recommended dimensions below.

| | | |
|-----------------------|---|---------------------|
| Total liner length | = | cylinder length |
| Liner wall thickness* | = | 2–3 mm |
| Liner flange height * | = | 4–5 mm |
| Liner flange Ø * | = | liner outer Ø +2 mm |
| Pressfit | = | 0,08–0,1 mm |

* These dimensions should be checked for each repair. It may be necessary to adapt the values.

Ordering information:

| | |
|----------------------------------|-------------------|
| Alusil® cylinder sleeve, small Ø | 89 571 190 |
| Alusil® cylinder sleeve, large Ø | 89 572 190 |