# Metalastik® type Offset Shear Springs

## Features/Application

Metalastik® Offset Shear Springs are normally used in pairs , fitted at an angle to the vertical axis, thereby loading the rubber in shear and compression and providing three linear modes of flexibility.

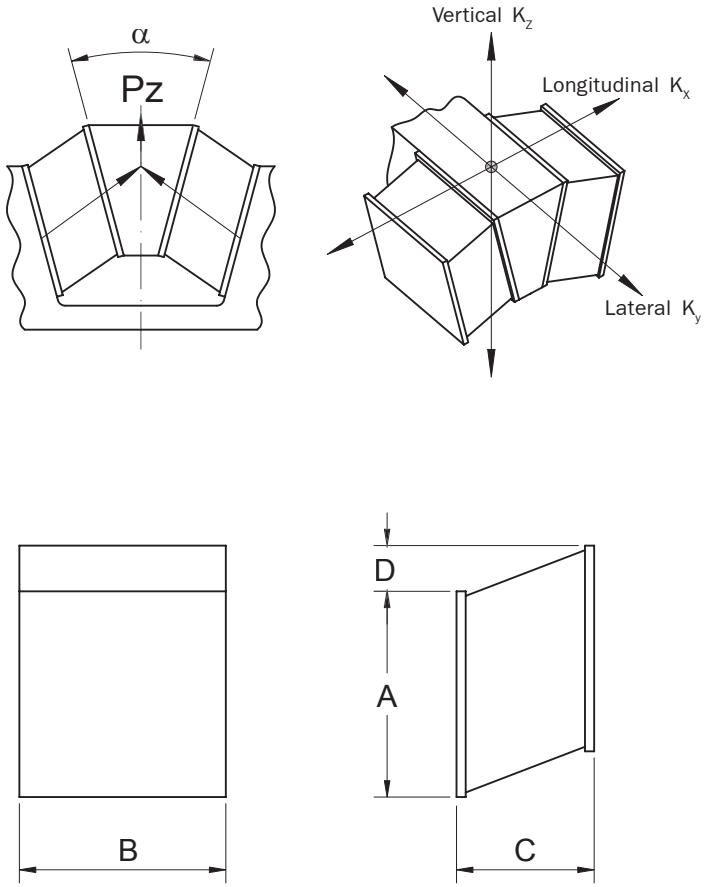
The springs shown on the following pages are a selection from the existing Metalastik® range but other and new designs can be made available for applications with special requirements.

Preferred rubber hardness (50 Shore) and included angles of inclination are quoted for optimum performance but may be varied to suit particular application requirements. Horizontal stiffness values vary significantly with vertical load and deflection conditions as indicated in the graphs.

This type of spring may be used for primary or secondary suspensions on rail vehicles. For secondary suspensions, bolster beam systems can incorporate these springs which can also be combined with Metalastik® Bearer Springs and centre control arrangements to produce maintenance free solutions.

# Offset Shear Springs

### <60 mm Vertical Deflection



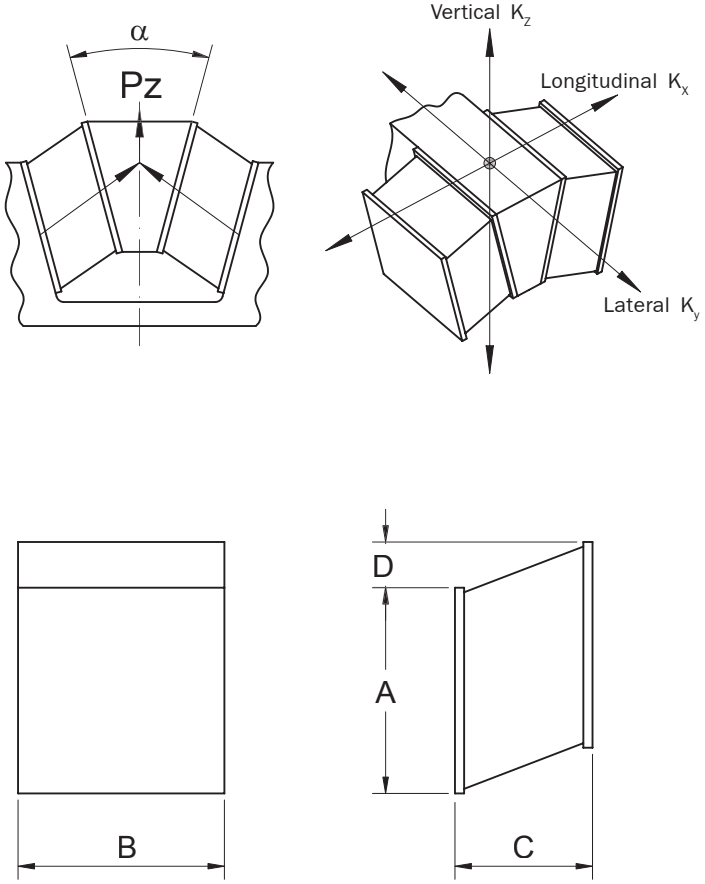

Vertical deflection and all stiffnesses refer to two units at the included angle shown in the table.

*Parts listed are a selection of a wider range, details of which are available on request.*

| Product No. | | 17-1280 | 17-1578 | 17-1598 | 17-1735 | 17-0563 | 17-1500 |
|---|---|---|---|---|---|---|---|
| Vertical load | kN | 58 | 83 | 49 | 37 | 32 | 48 |
| Vertical deflection | mm | 36 | 49 | 56 | 59 | 60 | 60 |
| Vertical stiffness | MN/m | 1.6 | 1.7 | 0.9 | 0.62 | 0.55 | 0.75 |
| Included angle | α | 34 | 34 | 26 | 26 | 34 | 34 |
| Dimension A | mm | 248 | 210 | 152 | 152 | 197 | 165 |
| Dimension B | mm | 140 | 203 | 300 | 300 | 197 | 250 |
| Dimension C | mm | 92 | 127 | 134 | 136 | 139 | 135 |
| Dimension D | mm | 21 | 81 | 96 | 112 | 70 | 60 |
| Unit mass | kg | 7.7 | 12.2 | 10.5 | 9.5 | 8.2 | 10 |

# Offset Shear Springs

## 61 - 90 mm Vertical Deflection




Vertical deflection and all stiffnesses refer to two units at the included angle shown in the table.

*Parts listed are a selection of a wider range, details of which are available on request.*

| Product No. | | 17-0694 | 17-1042 | 17-1577 | 17-1324 | 17-1649 |
|---|---|---|---|---|---|---|
| Vertical load | kN | 47 | 45 | 68 | 48 | 77 |
| Vertical deflection | mm | 65 | 65 | 65 | 75 | 87 |
| Vertical stiffness | MN/m | 0.8 | 0.77 | 1.1 | 0.67 | 0.89 |
| Included angle | α | 34 | 22 | 22 | 34 | 34 |
| Dimension A | mm | 216 | 210 | 210 | 221 | 264 |
| Dimension B | mm | 216 | 172 | 203 | 243 | 290 |
| Dimension C | mm | 148 | 159 | 159 | 167 | 194 |
| Dimension D | mm | 79 | 102 | 102 | 88 | 108 |
| Unit mass | kg | 10.2 | 12.4 | 15 | 13 | 19.3 |