The calotte-shaped embossings 7 and 8 in parts 3 and 2, respectively, are axially aligned. The part 3 is arranged so that the raised portion of the embossings 7 engage the friction material and the recessed portion of the embossings face part 2 Part 2 of the carrier plate 1 is arranged so that the raised portion of the embossings 8 are received in the recessed portion of the embossings 7 in part 3 In this manner the raised portions of the embossings 7 on part 3 project into the friction material 5 and help resist shear stress imparted to the friction material 5 during braking Likewise, the nested relationship of the embossings 7 and 8 enable the carrier plate 1 to resist the shear stresses imparted to part 3 during braking.

Referring to FIG 2, it can be seen that a thin bonding material 4 is inserted between and permanently bonded to parts 2 and 3 of the carrier plate 1 In this way, parts 2 and 3 are joined to form the carrier plate 1. The material 4 is slightly compressible, vibration-damping, heat-insulating, elastic and non-swellable.

A brake pad according to the instant invention can be manufactured as follows. Part 3 of the carrier plate 1 which is closest to the friction material 5 is constructed from a steel plate three millimeters thick. Part 2 of the carrier plate 1 is constructed from a steel plate 1 2 millimeters thick. Part 2 can also have the same length and width as part 3 and have bores coaxial with the bores 6 in part 3. A plurality of calotte-shaped, axially aligned embossings 7 and 8 are formed on parts 3 and 2, respectively. The embossings have oblique centering surfaces which are approximately eight millimeters in diameter and one millimeter in depth. After embossing the two metallic plates are degreased in the customary manner and an adhesive is put on both sides of part 3 and on the side of part 2 which faces part 3 A layer of cyclized rubber having a thickness of 0.15 millimeters is placed between the parts 2 and 3 of the carrier plate 1. The parts 2 and 3 of the carrier plate 1 are placed in a mold with the layer 4 therebetween. A friction lining composition 5 is then poured into the mold

Subsequently, the pressing process is carried out at a pressure between 500 and 700 kp/cm sup 2 and at a temperature between 150 degree. and 210 degree C for a curing time of 2-12 minutes This is done in a single press die and in a single step The friction lining composition is shaped and formed to give the friction lining 5 and simultaneously the lining 5 is bonded to the carrier plate 1 and the bonding layer 4 is bonded to the parts 2 and 3 to produce the unitized carrier plate 1

Using this method, it has been found that the bonding layer 4 is non-swellable, that is to say, non-flowable, and the material is not pressed out from between the parts 2 and 3 during the pressing operation. Further, it has been found that during the pressing operation, the projections and recesses of the calotte-shaped embossings 7 and 8 precisely center parts 2 and 3 and prevent relative displacement of the parts. It has also been found that the bonding material 4 not only forms a vibration-damping and heat-insulating layer, but is also forms a wall having a uniform thickness between the parts 2 and 3. In this manner, metal-to-metal contact of the parts 2 and 3 is prevented at all places including adjacent the calotte-shaped embossings, with the result that no bridges are formed which can transmit vibration or heat. Since the bonding material 4 is very thin, it has been found that using the aforementioned dimensions the projections and recesses of the embossings 7 and 8 adequately engage each other and reliably absorb the shear forces arising during braking, and that mutual displacement of the parts 2 and 3 is prevented.

In actual tests in which the brake pad was stressed by shearing forces which acted parallel to the contact surfaces, the shear forces reached 1870-2000 kp before failure These forces are considerably higher than those customarily demanded by brake manufacturers and car manufacturers

A variety of materials suitable for bonding layer 4 have been found One suitable material is rubber-modified asbestos having a thickness of 0 5 millimeters Another material is linen-fabric impregnated