

PRODUCT TECHNICAL DATA SHEET

PakFanSteel

**Brake Friction Compound
PS2020**

DESCRIPTION

PS2020 is a low steel (LS) friction composition whose ferrous and ferrous compounds are less than 15 wt%. This product is in the form of fine powder with dark silver color. **PS2020** offers a very desirable choice for cars' brake friction material because of its powerful and silent braking with reasonable price.



GENERAL FEATURE

PS2020 is a low metallic NAO (Non-Asbestos Organic) compound with no asbestos fiber, no lead and no any other harmful and prohibited ingredients. Meanwhile, this product does not contain any copper and copper compounds; therefore, it is categorized as a copper-free composition. **PS2020** can readily be hot-pressed in as-received state with no need to any further pre-processing or pre-mixing.

APPLICATIONS

PS2020 is suggested to be used as composite friction component of disk brake pads for variety of light to medium weight cars.

PROCESSING CONDITIONS

PS2020 has been designed for positive molding using compression machine. However, the friction performance of brake pads produced by **PS2020** is greatly dominated by the compression molding conditions. The table below offers overall conditions for successful compression molding of **PS2020**. However, the accurate molding conditions should be identified carefully according to technical identifications of press molding machine used as well as the shape and type of brake pads to be manufactured. Accordingly, to make the production of brake pads based on **PS2020** much easier, we offer continued technical consultancy to our customers in every steps of brake pads manufacturing.

| Processing Conditions | Value | Unit | Method/Condition |
|--------------------------|---------|------|--|
| Hot press molding | | | |
| Applied molding pressure | 5-10 | MPa | Periodic breathing is required during molding. Post-curing is not necessarily required. |
| Molding temperature | 125-145 | °C | |
| Molding time | 4-8 | min | |
| Post-curing | | | |
| Post-curing temperature | N.A. | °C | |
| Post-curing time | N.A. | h | |

FRICITION PROPERTIES*

| Property | Value | Unit | Test method |
|---|-----------|------------------------------------|---|
| Normal COF** | 0.38-0.48 | | Friction classes F & G according to SAE J866/ISIRI 586 |
| Hot COF | 0.35-0.45 | | Friction class F according to SAE J866/ISIRI 586 |
| Friction Code | FF or GF | | SAE J866/ISIRI 586 |
| Wear Rate ($\times 10^7$) | < 2.5 | g.N ⁻¹ .m ⁻¹ | SAE J661/ISIRI 586 |

*Frictional and wear properties presented here are applicable for pads manufactured based on Pak-Fan Composite Sharif Co. recommendations. For more details about the molding conditions consult with the company.

** Coefficient of friction

PHYSICAL AND MECHANICAL PROPERTIES*

| Property | Value | Unit | Method/Condition |
|-----------------------------|-------|--------------------|---|
| Apparent Density | 0.6 | g.cm ⁻³ | |
| Hardness | < 60 | HRR | Hardness measurement is carried out on manufactured pads. |
| Flexural Modulus | N.A. | MPa | |
| Compression Modulus | N.A. | MPa | |
| Thermal Conductivity | N.A. | w/m.K | |
| Specific Heat | N.A. | kJ/kg.°C | |

*Physical and mechanical properties presented here are applicable for pads hot-cured under molding conditions recommended by Pak-Fan Composite Sharif Co. For more details about the molding conditions consult with the company.

HANDLING AND TRANSPORTATION

Avoid shooting, shaking and vibrating the product packages during transportation, handling and storage because these may deteriorate uniformity of the compound.

STORAGE

PS2020 should be stored in dry indoor conditions at temperatures between 5-25 °C, in its original unopened packages before using in molding process. Storage at higher temperatures will reduce the shelf life. The expiry date of the product, under the storage conditions recommended, is given on the product packages. Storage of opened packages for long period should be avoided.

TERMS AND CONDITIONS OF USE

The information and data presented in this technical data sheet have been validated by laboratory and practical tests and are believed to be accurate and reliable. Nevertheless, the quality of brake pads produced based on **PS2020** friction compound is strongly related to the manufacturing process used. As a result, the quality of the friction composite produced based on **PS2020** compound may vary from one manufacturer to another one. Hence, since we cannot control the manufacturing process, the customers shall remain responsible for satisfying themselves that **PS2020** friction compound manufactured by Pak-Fan Composite Sharif Co. is acceptable for their intended process and purpose. We warrant that **PS2020** friction compound is free from defects in accordance with and subject to our general conditions of supply.