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|--------------------|----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| BB00.40-P-0132-03A | Minimum requirements for fuels for diesel engines (ASTM) | American Society for Testing and Materials - ASTM D 975-94                                                                                         | Sheet 132.3 |
|                    |                                                          |  Comment: The fuels which are rich in sulfur are to be dyed blue. |             |

| Characteristics                                 |                   |      | Requests |          | Test method<br>ASTM |
|-------------------------------------------------|-------------------|------|----------|----------|---------------------|
|                                                 |                   |      | No. 1 -D | No. 2 -D |                     |
| Boiling characteristics 90 Vol.-%               | °C                | min. | -        | 282      | D 86                |
|                                                 | °C                | max. | 288      | 338      |                     |
| Kinematic Viscosity at 40 °C                    | mm2/s (cSt)       | min. | 1.3      | 1.9      | D 445               |
|                                                 | mm2/s (cSt)       | max. | 2.4      | 4.1      |                     |
| Flash Point (Pensky-Martens)                    | °C                | min. | 38       | 52       | D 93                |
| Carbon residue from a 10 % residue (Ramsbottom) | percent by weight | max. | 0.15     | 0.35     | D 524               |
| Ash                                             | percent by weight | max. | 0.01     | 0.01     | D 482               |
| Corrosive effect on copper                      | Class. no.        | max. | 3        | 3        | D 130               |
| Sulfur content (low sulfur grade)               | percent by weight | max. | 0.05     | 0.05     | D 2622              |
| Sulfur content (high sulfur grade)              |                   |      | 0.50     | 0.50     | D 129               |
| Water and Sediment                              | vol %             | max. | 0.05     | 0.05     | D 2709              |
| Alternative:                                    |                   |      |          |          |                     |
| Cetane index                                    |                   |      |          |          |                     |
| Aromatic content                                |                   |      |          |          |                     |
|                                                 |                   | min. | 40       | 40       | D 967               |
|                                                 | vol %             | max. | 35       | 35       | D 1319              |
| Ignition Quality                                | Cetane number     | min. | 40       | 40       | D 613               |