MaxPROP HSP
High-strength ceramic proppant

**BENEFITS**
- Ensures superior long-term conductivity
- Low-density (LD) proppant improves proppant transport
- Minimizes fines generation

**FEATURES**
- Consistent performance and quality
- Availability in all standard mesh sizes
- Superior roundness and sphericity

MaxPROP HSP high-strength ceramic proppant is manufactured with the highest quality standards to ensure superior, long-term proppant pack conductivity.

**Permeability (D) for 2 lbm/ft², 250 degF, with 2% KCl between Ohio Sandstone”**

<table>
<thead>
<tr>
<th>Closure Stress, psi</th>
<th>20/40</th>
<th>30/50</th>
<th>40/70</th>
<th>30/50</th>
<th>40/70</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,000</td>
<td>533</td>
<td>238</td>
<td>100</td>
<td>225</td>
<td>111</td>
</tr>
<tr>
<td>4,000</td>
<td>460</td>
<td>199</td>
<td>88</td>
<td>199</td>
<td>96</td>
</tr>
<tr>
<td>6,000</td>
<td>348</td>
<td>162</td>
<td>80</td>
<td>150</td>
<td>81</td>
</tr>
<tr>
<td>8,000</td>
<td>273</td>
<td>126</td>
<td>73</td>
<td>136</td>
<td>65</td>
</tr>
<tr>
<td>10,000</td>
<td>168</td>
<td>89</td>
<td>65</td>
<td>101</td>
<td>51</td>
</tr>
<tr>
<td>12,000</td>
<td>105</td>
<td>64</td>
<td>55</td>
<td>62</td>
<td>35</td>
</tr>
<tr>
<td>14,000</td>
<td>65</td>
<td>46</td>
<td>43</td>
<td>41</td>
<td>25</td>
</tr>
</tbody>
</table>

1 ISO 13503-5 "Procedure for measuring the long-term conductivity of proppants”

**Crush resistance - % by weight fines generated**

<table>
<thead>
<tr>
<th>Closure Stress, psi</th>
<th>20/40</th>
<th>30/50</th>
<th>40/70</th>
<th>30/50</th>
<th>40/70</th>
</tr>
</thead>
<tbody>
<tr>
<td>15,000</td>
<td>6.26</td>
<td>3.98</td>
<td>2.42</td>
<td>9.45</td>
<td>5.44</td>
</tr>
<tr>
<td>12,000</td>
<td>3.34</td>
<td>2.09</td>
<td>0.8</td>
<td>5.02</td>
<td>2.75</td>
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<tr>
<td>10,000</td>
<td>1.6</td>
<td>0.98</td>
<td>0.34</td>
<td>1.36</td>
<td>1.11</td>
</tr>
</tbody>
</table>
### Conductivity (mD-ft), 2 lbm/ft², 250 degF, with 2% KCl between Ohio Sandstone†

<table>
<thead>
<tr>
<th>Closure Stress, psi</th>
<th>HSP</th>
<th>HSP LD</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,000</td>
<td>8,130</td>
<td>3,644</td>
</tr>
<tr>
<td>4,000</td>
<td>6,910</td>
<td>2,973</td>
</tr>
<tr>
<td>6,000</td>
<td>5,664</td>
<td>2,373</td>
</tr>
<tr>
<td>8,000</td>
<td>3,895</td>
<td>1,796</td>
</tr>
<tr>
<td>10,000</td>
<td>2,317</td>
<td>1,245</td>
</tr>
<tr>
<td>12,000</td>
<td>1,396</td>
<td>855</td>
</tr>
<tr>
<td>14,000</td>
<td>827</td>
<td>601</td>
</tr>
</tbody>
</table>

†ISO 13503-5 “Procedure for measuring the long-term conductivity of proppants”

### Physical Properties (averaged)

<table>
<thead>
<tr>
<th></th>
<th>HSP</th>
<th>HSP LD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roundness</td>
<td>0.89</td>
<td>0.91</td>
</tr>
<tr>
<td>Sphericity</td>
<td>0.92</td>
<td>0.91</td>
</tr>
<tr>
<td>Bulk density, g/cm³</td>
<td>2.04</td>
<td>1.52</td>
</tr>
<tr>
<td>Specific gravity, g/cm³</td>
<td>3.55</td>
<td>2.74</td>
</tr>
<tr>
<td>Turbidity, NTU</td>
<td>37.9</td>
<td>23</td>
</tr>
<tr>
<td>Acid solubility, %</td>
<td>5.41</td>
<td>4.05</td>
</tr>
</tbody>
</table>

‡12:3 HCl:H solution; 66 degC (150 degF) for 30 min