

IsoVERT™ MIDSTAGE DIVERSION MATERIAL

IsoVERT material can be used during initial fracturing or recompletion operations. It can also be used as a temporary lost circulation material during workover operations for wellbore cleanouts in depleted to low-pressure reservoirs.

When used as a midstage diverter, IsoVERT material can offer two significant advantages. First, it can facilitate the extension of existing dominant fractures while propagating new fractures by diverting flow to microfractures. The process aims to boost conductivity in all perforated zones by effectively stimulating all fractured intervals, which unlocks additional producible volume within the reservoir.

In addition, IsoVERT material has also been demonstrated to reduce the number of frac plugs and perforating runs used during the completions process, leading to increased customer time savings.

When used in recompletion operations, IsoVERT material provides excellent bridging capabilities for regular and extended reach laterals.

C&J provides a full portfolio of diversion products to meet the needs of your operation and reservoir requirements.

- Full spectrum of temperature ranges available
- Unique particle/mesh sizes and shapes available
- Varied dissolution rates based on well shut-in duration required
- Diverter particles are custom matched to the proppant size used

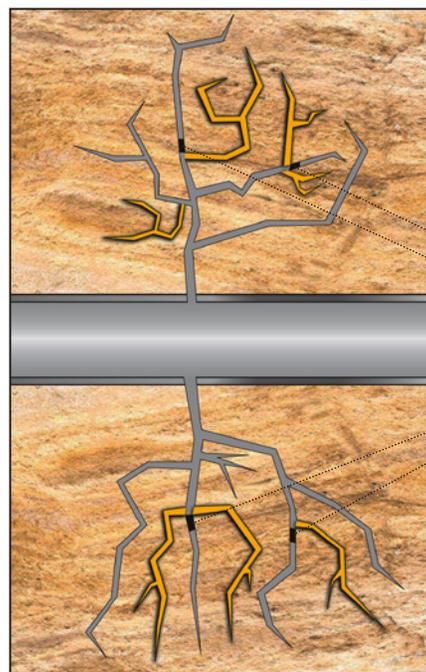


FIGURE 1-A

IsoVERT material is pumped into the fracture network using standard fracturing fluids. The diverter bridges off the dominant fracture network. Once this occurs, a new set of fractures will begin to propagate. Thus, by adding greater complexity to the fracture network, more reservoir volume is contacted.



FIGURE 1-B
IsoVERT particles

TOTAL-THICKENING-TIME ATTRIBUTES

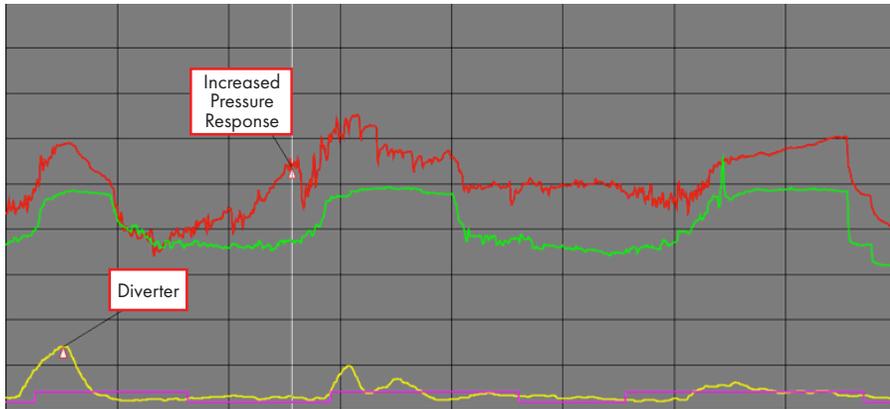


FIGURE 2-A

The treatment graph shows a typical pressure response when IsoVERT material is injected into the reservoir. Unlimited cycles of diversion can be performed in a single treatment.

No major changes to operational procedures or equipment are needed during jobs using IsoVERT material. C&J selects a diverter based on the unique aspects of the reservoir and wellbore geometry. The required mass of diverter is calculated per stage and is then adjusted real time based on pressure response during the treatment.

Typical range of mass required can vary from 4 to 10 lb per perforation on any stage in which IsoVERT material is used.

PERCENTAGE WEIGHT LOSS VS. TIME (190°F)

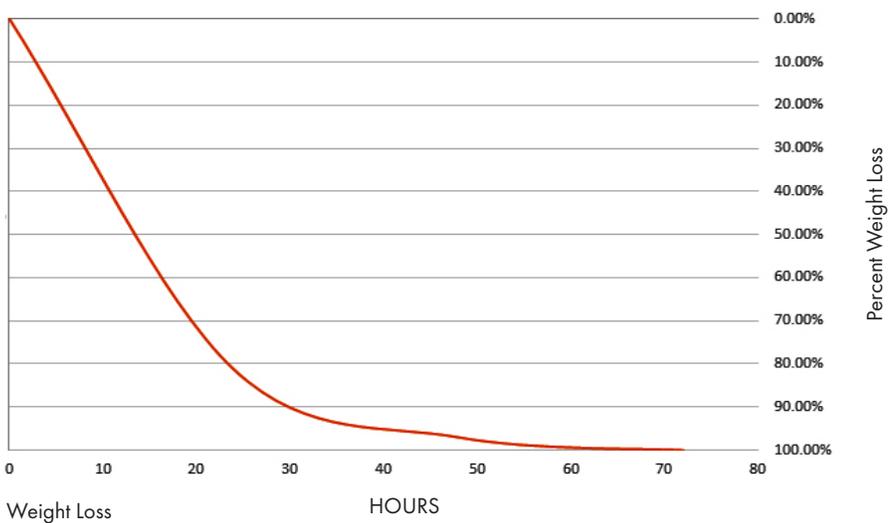


FIGURE 3-A

IsoVERT material, depending on reservoir temperature, will dissolve at various rates. The addition of an acid or base will accelerate the degradation.

To save time and improve diverter effectiveness on your job site, contact your C&J representative or visit cjenergy.com.

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CJES-18-467

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