From: Hawkins, Matthew J. <mjhawkin@nsf.gov>
Subject: Smith_Berger_block_Oceanus
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All-

I wanted to pass on an OUTSTANDING example of a new block that appears to be nearly 100% Appendix B compliant. See attached - it warms my heart! :) Please note the engraved diagram that clearly indicates the working load is in terms of cable tension (MPT).

We just finished up a ship inspection and saw many blocks just stamped with a WLL. So is that cable tension or load at the padeye? There was no other existing documentation. On OSU's new block, absolutely no question what the numbers mean.

To wrap up the MCD, all that's needed is a simple paragraph describing what this block is used/rated for ("Towing/Lifting-Deep Water with 3/8" cable or smaller?) and confirmation from Smith Berger that they use at least a FoS of 1.5 (DLT > 1.5 x 10,000 = 15,000 LBS). I'm assuming they use closer to 5.0. You don't necessary need to know the exact number, just that at least a FoS of 1.5 is used. Saying in the MCD that DLT > 15,000 is fine. This allows the vendor to not disclose the exact details, but ensures Appendix B compliance which comes from 46 CFR.

The inspection team always recommends assembling the MCD's in a single binder for use and easy reference by the crew/techs.

Please also note the wide V-design and the proper groove per Appendix A. Some of you were asking about this kind of block. Very handy.

This block was funded through SSSE. Ask and you shall receive! You also only need to ask the vendor what you want with regard to markings, drawings and documentation. We've just never had a standard that forces us to ask.

Progress!

Matt

Matt,

Attached is what I think you are looking for on our block. This was done a couple of years ago. We had this built for our 3/8" wire as the primary and to also be used for all our mooring work. We did not have ONE block that was complaint

for doing standard 3/8" work and we always liked our Gifford block for mooring work. This does both. We don't have a 3/8" wire winch on the Oceanus but still works well for mooring work.

Daryl

All-

Daryl pointed out to me that the FoS was on the drawing. 5:1 as suspected (in excess of 46 CFR). Brilliant! That's the best way.

The only thing remaining to be 100% Appendix B compliant is to write up the MCD and attached the drawings.

This is also an excellent example of why it is so important to quote 46 CFR correctly as designing to (and I paraphrase) "...the wire breaking strength, with a minimum FoS of at least 1.5 on internal structural components."

NOT

"1.5 time the breaking strength"

If you do the later, you can inadvertently add FoS on top of FoS. Here Smith Berger used a FoS of 5.0 - far in excess of 46 CFR minimums.

So, the MPT is 10,000 LBS per the vendor.

Assuming no load limiting conditions or devises, DLT has to be at least the BS of 3/8 wire rope with a FoS of at least 1.5 according to Appendix B section B.4 (and 46 CFR). If I were writing the MCD, I would show the calculation for DLT as being: (10,000 * 5.0)/1.5 = 33,000 LBS. Maybe I'd even round down to something more conservative like 30,000 LBS or 25,000 LBS? BS of 3/8" 3x19 is about 15,000 LBS so you're good, but who knows what 3/8" rope will come out next? This block would then technically be compliant for a 3/8 synthetic with a much higher breaking strength, though you would want to work below MPT.

The point is, you have all of the information you need from the vendor to fully understand what the block is designed to. You can now make the right assessments of capability.

Keep in mind that wires sometimes break above the manufacturer's minimums. This is another good reason for FoS being a touch greater than 1.5. I'm afraid we've replaced a lot of blocks and equipment over time that may have been fine. We simply didn't have the information to know.

Matt





