

ROPES, CHAINS, AND SLINGS

used for sling chains. It has high strength, high impact resistance and good abrasion resistance.

Special purpose alloy chains are made from stainless steel, monel metal, bronze, and other materials. They are designed for use where resistance to corrosive substances is required, or where their other special properties are desirable.

Proof coil chain (also known as common or hardware chain) is used for miscellaneous purposes where failure of the chain would not endanger human life or result in serious damage to property or equipment. Proof coil chain should never be used for slings.

Working load limits

Table 21-J shows the recommended working load limits and the minimum breaking strengths of alloy steel chain. The data for other types of chain may be obtained from the NACM* specification adopted in August 1981.

The tensile strength of alloy steel chain increases in proportion to its hardness (produced by heat treating). Resistance to abrasion also increases proportionately with hardness.

Impact conditions caused by faulty hitches, bumpy crane tracks, and slipping hook-ups can materially add to the stress in the chain. If severe impact loading may be encountered, a lower working load limit should be used, regardless of the chain type.

TABLE 21-K
MAXIMUM ALLOWABLE WEAR AT
ANY POINT OF LINK

Chain size (in.)	Maximum allowable wear (in.)
3/4	3/64
7/8	5/64
1	7/64
1 1/4	9/64
1 1/2	5/32
1 3/4	11/64
2	3/16
2 1/4	7/32
2 1/2	1/4
3	9/32
3 1/2	5/16
4	11/32

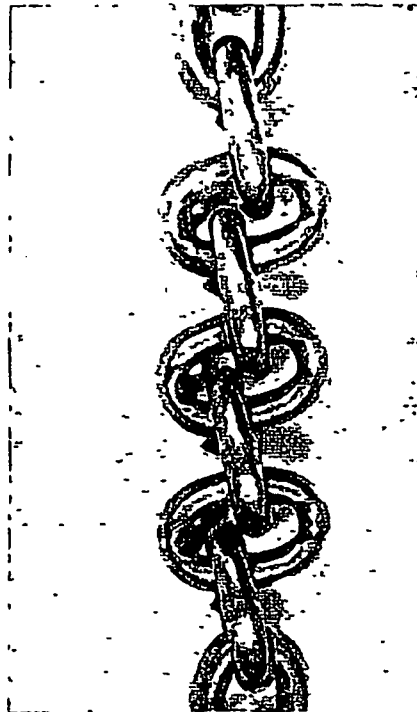


Fig 21-9 Extreme wear at bearing surfaces. Links are turned to detect wear.

The general strength and working load limits of alloy steel chain are not altered appreciably by low atmospheric temperatures.

Chain slings should preferably be purchased complete from the manufacturer and, whenever repairs are required, should be sent back to him.

Inspection

Most of the causes of chain failures can be detected before failure occurs if the proper inspection procedure is followed.

A good inspection plan provides for two inspections, one daily by the personnel using the chain, and the other biannually or oftener by a trained man from the mechan-

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