

# ENZYMATIC TREATMENT INFLUENCE ON DERMATAN SULPHATE CHANGES IN HIDE

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There are two main "cementing" materials in a derma tissue of skin/hide. One of them is the hyaluronic acid which considerable amount is removing during the process of soaking. The second is acidic dermatan sulphate. The highly charged dermatan sulphate glycosaminoglycan side chains are split from the proteoglycan backbone by the strong alkali. The amount of dermatan sulphate depends on the hide or skin type, section and layer [1].

The development of enzymatic unhairing process has raised the question, what the influence have the enzymes on dermatan sulphate in the treated hide?

To get the answer, an action of sodium sulphide separately and of sodium sulphide combined with proteolytic enzyme (enzyme preparation *NUE O.6 MPX*) on a kinetic of change of both collagen proteins and dermatan sulphate changes was explored.

The use of unhairing solution containing 7 g/l Na<sub>2</sub>S and 0.3 *NUE O.6 MPX* during the treatment led to lowering of dermatan sulphate content in the hide (Table).

**Table 1.** Influence of treatment duration by solution of Na<sub>2</sub>S+*NUE O.6 MPX* on dermatan sulphate content in the treated hide

Treatment duration	Amount of dermatan sulphate in hide, %	Removal of dermatan sulphate, %
Hide after soaking (0 hours)	0.51	-
Treatment 6 hours	0.36	29
Treatment 10 hours	0.33	35
Treatment 24 hours	0.28	45

The treatment with application of enzyme removes dermatan sulphate from hide. The most intense process goes during first 6 hours, later the process slows down. Accordingly, the enzymes plays active role in the dermatan sulphate removal and, parallel, influences on the properties of unhairing hide. The investigation is continued.

## References

1. J. Alexander, J. Amer. Leather Chem. Ass., **83** (1988), 287.