Industrie- und Handelskammer
Wuppertal-Solingen-Remscheid

Minimum Requirements for the "Solingen" Qualification

The plenum of the Chamber of Industry and Commerce Wuppertal-Solingen-Remscheid has passed the revised formulation of the Minimum Requirements on November 30th, 2005 asfollows:

The following minimum values represent the criteria for the "Solingen" qualification of cutting equipment which correspond to the manufacturer's contemporary concepts of "Solingen" cutting equipment. These minimum requirements putting in concrete terms the major stages of manufacturing as well as guaranteeing the characteristic use, are an expression of the present fair practices, procedures and applications for the production of cutting equipment in the industrial area of Solingen according to § 137 section 2 clause 2 of the law on trademarks.

I. Major stages of manufacturing for cutting equipment according to § 1 clause 1 of the Regulation for the protection of the Solingen name

1. Manufacture

- warm forging
- cold forging
- mechanical processing
- heat treatment
- surface, mechanical
- surface, galvanic/chemical
- finishing touch

2. Assembly

- of synthetic handles
- of wooden handles
- of steel handles
- of cast handles
- of handles made from other materials
- of component halves and other component parts
- final assembly of instruments

II. Fulfilment of the Requirements according to § 1 clause 2 of the Regulation for the Protection of the Solingen Name

All types of materials which are suitable for the appropriate manufacturing and processing method to achieve the characteristic use of the product are admissible. When using material other than steel or another kind of steel, a minimum quality according to the following requirements must be achieved. The description of the features to be exhibited by individual pieces of flatware or cutlery is aimed at the usual forms of those products. It is not the objective of the Solingen regulations to exclude special-purpose products with function-specific features fit for their intended purpose which deviate from the norm.

1. Products of Stainless Steel

1.1. **Knives**

Fulfilment of requirements according to DIN EN ISO 8442-1

For knives to use for peeling fruit and/or vegetable and not for cutting on a hard pad with a maximum blade length of 9 cm the DIN EN ISO 8442-1 point 6.2. and the DIN EN ISO 8442-5 shall not be in force .

1.2. Scissors
Material: Steel according to DIN EN 10088-1 - X46Cr13
Scissors having an overall length of less than 130 mm (5") must have a minimum hardness of 52 HRC while larger scissors must have a minimum hardness of 55 HRC.

1.3. **Cutlery**
1.3.1 Silver-plated and non-rusting cutlery:
Fulfilment of requirements according to DIN EN ISO 8442-2
1.3.2. Gold-plated cutlery:
Fulfilment of requirements according to DIN EN ISO 8442-4

1.4. Open Razors and Razor-blades
Material: No specific details
Minimum hardness for open razors 58 HRc
Minimum hardness for razor-blades 55 HRc

1.5. Manicure and Pedicure Equipment with Cutting and Filing Function including Nail Clippers
Material according to DIN EN 10088 - X20Cr13
Minimum hardness 48 HRc
Minimum hardness for cuticle forceps 46 HRc

1.6. **Nail-files**
1.6.1. Coated Nail-files
Material according to DIN EN 10088 - X39Cr13
The coating of the file area itself must withstand bending beyond the yield point of the substrate without flaking. The file must have spring-hardness along its entire length, i.e. if the steel is hardened strip steel, its minimum hardness must be 48 HRC, if the steel is not hardened, its minimum flexural strength must be 1200 n/mm2.
1.6.2. Cold-forged Nail-files
Material according to DIN EN 10088 - X39Cr13
Minimum hardness 49 HRC

1.7. Tweezers
Material: corrosion-resistant steel or non-ferrous metal,
no specific details
The characteristics of the material must be such that the required spring and tip position depending on the use will remain unchanged.

2. Products Made of Unalloyed Quality Steels

2.1. Knives
Material according to EN 10083 - 1 C 45 –TN
Minimum hardness 50 HRc

2.2. Scissors
Material according to DIN EN 10083 - 1 C 45 – TN
Scissors having an overall length of less than 130 mm (5") must have a minimum hardness of 52 HRC while larger scissors must have a minimum hardness of 55 HRC.

2.3. Cutlery
Cutlery made of unalloyed, unprotected steels are not admissible.

2.4. Open Razors and Razor-blades
Material: At least 1.1% C

Minimum hardness 60 HRC

2.5. Manicure and Pedicure Equipment with Cutting and Filing Function including Nail Clippers

Material according to DIN EN 10083 – 1 C 35 – TN
Minimum hardness 45 HRC
Material according to DIN EN 10083 - 1 C 45 – TN
for nail clippers as well as cuticle and nail forceps
Minimum hardness for nail clippers 48 HRC
Minimum hardness for cuticle and nail forceps 46 HRC

2.6. Nail-files

2.6.1. Coated Nail-files
Material according to EN 10083 -1 C 60
The coating of the file area itself must withstand bending beyond the yield point of the substrate without flaking. The file must have spring-hardness along its entire length, i.e. if the steel is hardened strip steel, its minimum hardness must be 48 HRC, if the steel is not hardened, its minimum flexural strength must be 1200 n/mm^2. Other base materials are admissible.
2.6.2. Cold-forged Nail-files
Material according to DIN EN 10088 - 1 C 45
Minimum hardness 55 HRC

2.7. Tweezers

Material: no specific details
The characteristics of the material must be such that the required spring and tip position depending on the use will remain unchanged.

3. Other Requirements and Regulations

3.1. Features of the Hardness
All details regarding hardness refer to the cutting or filing parts of the products. For knives the complete blade is meant hereby and not just the cutting edge. The materials must be hardened in consideration of the temperature control required for the respective steel. Examinations of the hardness and microstructures must be applied to the whole blade.

3.2. Roughness
The roughness of the blades of table knives may not go beyond 3.0 µm according to Rz max and for other knives and scissors not beyond 6 µm according to Rz max .

3.3. Features of the Coating
The coating of scissors as well as manicure and chiropody instruments, such as nail files, nippers, clippers and tweezers, must have a thickness of at least 7 7µm.

3.4. Further Standards
Inasmuch as further DIN EN or ISO standards are applicable for individual product groups, these standards are to be applied.

4. Additional criteria regarding the functions of specific cutting implements and flatware

4.1. Scissors
The blades of a pair of scissors are of equal length. The handles or eyes are parallel to each other in one plane. The cutting edge is ground uniformly as a single surface from one end of the blade to the other without a step. The points are aligned with each other. The scissors have a smooth, uniform cutting action along the entire length of the blades. The scissors must cut in

accordance with the intended purpose at latest after closing one-third of the blade length (measured from the screw). The scissors must close uniformly without differences in pressure. The joint must not come undone by itself during the cutting action. To prevent the two halves of a pair of scissors seizing, i.e. where the harder blade wears into the softer blade, the hardness ratings of the two blades of scissors up to an overall length of 130 mm (5") must not differ by more than 2 HRC, with larger scissors the difference must not exceed 1 HRC.
When inspecting scissors to assess their suitability for the "Solingen" label, the joint, stalks and eyes of the scissors must also be inspected. The surface must be free of cracks, burrs and corrosion scarring.

4.2. Nail Nippers
Both legs of the nippers must be of identical length. The cut must be perfectly aligned with each other and be of identical length. When gently pressed together, only the tips of the blades may meet, and when more pressure is exerted, the gap between the blades closes. The cutting edges of cuticle nippers must be uniformly ground. The cutting ability must be guaranteed along the full length of the cutting edges

4.3. Nail Clippers
The cutting edges must meet along their entire length. The cutting ability must be guaranteed along the full length of the cutting edges.

4.4. Corn Cutters
It must be possible to fit and remove the slider easily. The blade must be firmly mounted in the slider in such a way that the cutting gap is not increased during the cutting action and the depth of cut tolerance is not exceeded. For hygiene reasons, the plastic handles must be absolutely flush with the metal parts. When used for its intended purposes, the corn cutter must not become deformed beyond the yield point or break.

4.5. Nail Files
With nail files, all the surfaces outside the actual filing zone and including all edges must be deburred and smooth. The filing surfaces may be of the following types:
- cold forged with at least two strokes (cold-forged nail files),
- grains affixed by electrocoating, e.g. sapphire (coated nail files), textures created by electroplating or etching and other surfaces with a comparable file effect.

4.6. Tweezers
Tweezers must grip perfectly at their tips. The tweezers must be able to grip objects the thickness of a hair. When the tweezers are closed, the tips must remain closed even if additional pressure is applied. For tweezers the component halves must be firmly welded together and be perfectly deburred all around. The spring position must have an even aperture angle. The function of the tweezer points must be ensured.

Wuppertal, November 30th, 2005

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