

# One language for leather assessment

SATRA's five-point leather grading system helps to identify and quantify the best level of usability of leather. DARREN BROOKS explains.

Taiwanese-owned tannery Teh Chang and footwear manufacturer Genfort are speaking the same language – they are working together in utilising SATRA's five-point leather grading system to ensure consistent quality. The system has helped companies resolve quality issues since it was first introduced as part of the SATRASumm system 25 years ago. It ensures that input into the leather usage

calculation programme is realistic and based on the quality of leather used.

The system was made available to members as a separate module outside the SATRASumm software in 2001. This has resulted in positive feedback from member tanneries and shoe factories that have implemented the system and worked together to secure the highest quality product. Teh

Chang and Genfort are a typical example of such a relationship.

## Relationship between tanner and customer

Teh Chang has supplied leather to Genfort for over 25 years. Both undertook SATRA's five-point leather grading training around five years ago



Skin being assessed by an accredited grader



Accreditation certificates, awarded to Genfort

and each is accredited every year in its use. During this time there have been a number of changes, including great improvement in the quality of leather that Teh Chang has delivered. There have also been fewer quality disputes from Genfort since the training. The quality of leather now being bought and sold has been agreed by both Teh Chang and Genfort to be 85% usable. This is based on quality standards for the styles being produced by Genfort.

### Teh Chang

Taiwanese-based tannery Teh Chang has been a member of SATRA for many years. The company has supplied bovine leathers to the Asian markets since 1982, with 75% of all leathers produced going to China, and the rest being divided mainly between Vietnam and the Dominican Republic. The leather Teh Chang supplies is used by some of the world's biggest brands, whose footwear is sold all over the globe.

March to July is the busiest period of the year for Teh Chang. During this time they run two shifts and process around 1.8 million square feet of hide a month. Teh Chang also has a sister company called Joinland, which processes 1.5 million square feet a month, taking the

combined total to 3.3 million square feet monthly.

Richard Pai, Managing Director of Teh Chang says: "The benefits we have gained from SATRA's leather grading training are significant. We now speak one language with respect to leather. We use the same standards as the shoe factories, so there are fewer problems in communication with our customers. Also, quality issues have been reduced by 30%, thus reducing the time spent in arguments. Cost issues and claims have also been reduced from 5% to between 2% and 3%. Internally, the factory also uses the same standards as the tannery. The graders, inspectors and the staff from the business department all agree on the grading. In addition, the SATRA leather grading accreditation gives Teh Chang the chance for greater opportunities to work with more international brands."

### Genfort

China-based shoe factory Genfort, a member of SATRA since 2001, has been producing shoes in China for 15 years. The company employs 15,000 people, and makes shoes for more than 40 brands. Genfort has 26 lines with a

capacity of 1 million pairs a month, and is convinced of the value of the SATRA five-point leather grading system.

President of Genfort, Robert Tsai, says: "The significant benefit to having SATRA leather grading training is to have a fair and well accepted basis on which to inspect and calculate the area of leather that can be used. Our shoe factory and the tannery have the same understanding and agreement – in other words, we are speaking one language. This decreases the number of disputes; they have now dropped to between 2% and 3% and the general quality of leather has significantly improved. Although we have one language with the Teh Chang tannery, there are still other disputes with a few brands that are still speaking a different language. We hope SATRA will help teach these brands about the benefits and knowledge of leather grading. This would help decrease these disputes."

### The future

The next step in this continued effort to improve quality in the production chain is to train the quality control personnel from the resourcing companies and brands stationed in the factories. These



Teh Chang's Richard Pai, SATRA's Vivien Hsieh and Darren Brooks, and Robert Tsai of Genfort

personnel would almost certainly benefit from training in using the same methods as the tannery and shoe manufacturer in how to recognise defects on the leather and what is acceptable to use in each product. This would help to eliminate many more quality issues.

Richard Pai and Robert Tsai both suggest that SATRA could promote the five-point leather grading system by providing a leather appreciation course or a basic shoemaking course for factory quality control staff. SATRA is currently putting together a training course of this type, which will be available to members shortly. The course will include the following topics:

- Understanding the tanning process.
- Different types and finishes of leathers.
- Five-point leather grading.
- Quality standards and utilisation of leather in the cutting room.

## How the five-point leather grading system works

The prime objective of leather assessment (in the context of this article) is to measure leather in such a way that a percentage usable figure is obtained. SATRA's system is based on six grades, each with a 5% variation of exploitable area. This is shown in Table 1.

Table 1. SATRA's five-point grading system.

Leather grade	Five-point spread (%)	Mid point (%)
A	100-96	97
B	95-91	93
C	90-86	88
D	85-81	83
E	80-76	78
F	75-71	73

In order to accurately obtain this figure, the leather is first fully examined by a SATRA-trained person who has a clear idea of the quality requirements for the articles to be cut from the leather. After the leather has been inspected and the sub-standard areas of leather defined and measured, the percentage usable figure, or Quality Coefficient, is decided. This value is then used to calculate how much total leather (that



Measuring the area of a hide

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which can be used plus waste) is needed for the article. This helps to establish costs more accurately. It can also be used to 'correct' the price actually paid for the leather that can be used, so that the 'true' cost of the leather can be compared with that of alternative leathers. For example, a leather with a coefficient of 97% will be much better value (lower cost per year) than a similarly priced leather with a coefficient of only 73%. The coefficient becomes a standard figure that the manufacturer can use to define usability in terms of a number – the higher the number, the better value the leather.

Other objectives of leather assessment include:

- To check the supplier's quoted area measurements and to attribute to the material an area discrepancy coefficient. This is done by using a leather measuring machine to

accurately determine the area of each skin as received from the tannery. This result is subtracted from the supplier's quoted area to show the discrepancy coefficient as a percentage figure.

- To determine the average skin size of received material. If large, complicated components need to be cut from a smaller skin, this may increase the leather needed, as there will be more unavoidable waste on a smaller skin than when cutting the same components from a larger one. This has implications on costing and in the quantity of skins the cutter will need.
- To define the method of cutting. These methods are:
  - I. Selective: when there is little or no visible difference between leathers in the same delivery. This makes it simpler to cut in production.
  - II. Match marked: when there are significant differences in colour or

grain patterns on skins in a batch, then the cutter needs more time to cut and match the components. Examples of such leathers are nubucks, suedes and aniline leathers.

## Quality standard

To avoid confusion and to make the job of leather assessment easier, a standard pattern is used to determine the waste; all the leather is examined and assessed as if this is the shape that is going to be cut. The leather grader needs to concentrate only on this UK size 8 inside quarter template (shown in Figure 1).

Once the quality requirements of the components to be cut from that particular leather are understood, the grader then uses the quarter template simply to identify demarcation lines of good and bad material. The fact that the leather will probably not be used to cut this type of component should not concern the grader. They need only to

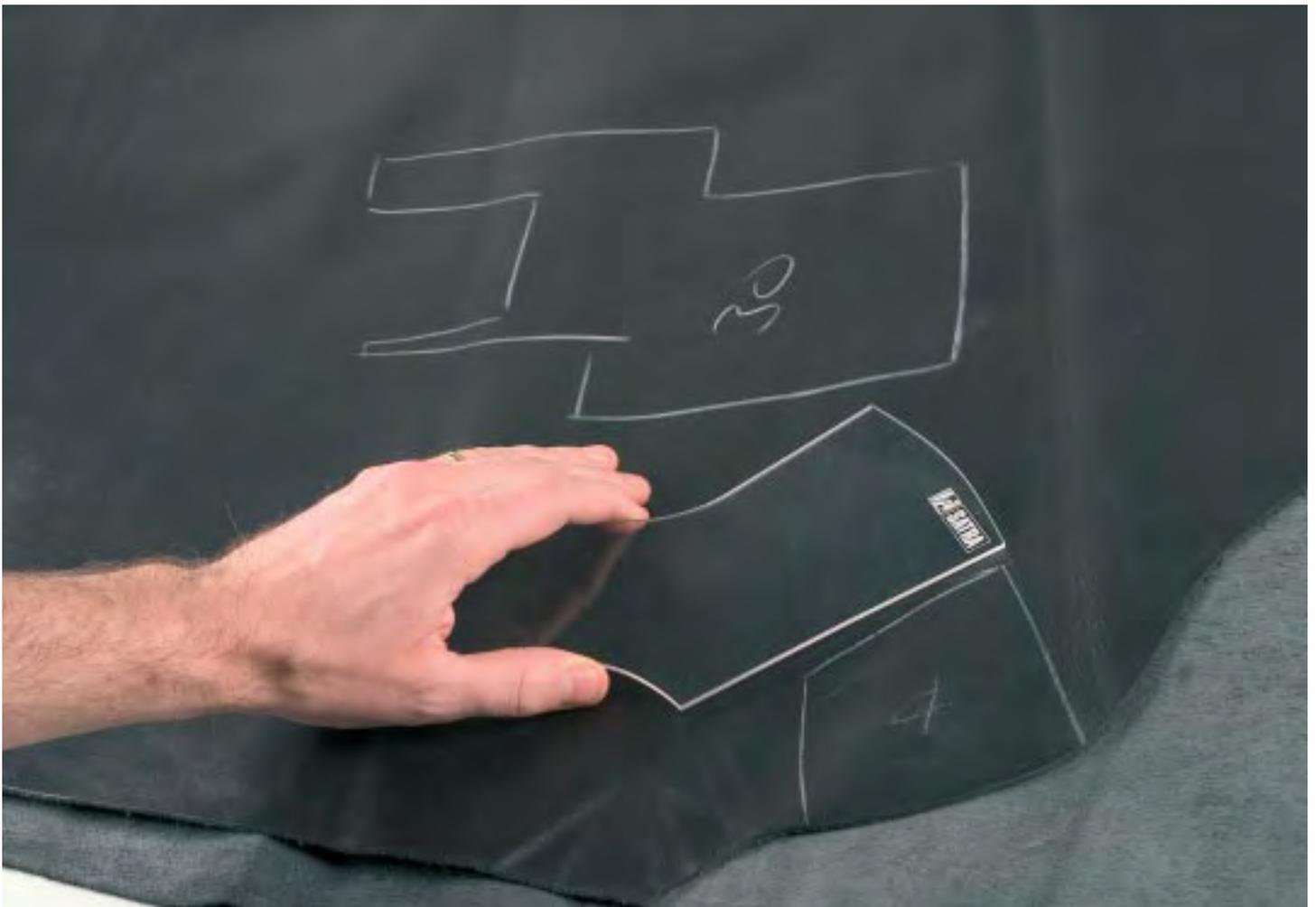


Figure 1: Inside quarter template being used to mark waste area

be well acquainted with leather and should inspect for the following defects:

- Loose or fibrous material.
- Brand marks, operation scars and open flaws.
- Closed flaws, wire marks and scratches.
- Growth marks or fat wrinkles.
- Veins.
- Flay cuts.
- Discoloured areas.
- Boardy areas.
- Insect or parasitic damage.
- Any other defect that may render an area of leather unusable.

The customer is responsible for providing a clear and unambiguous definition of the quality standard. This can be a physical example, such as a specimen skin of leather, marked to show which surface defects, characteristics and areas of looseness are unacceptable.

An alternative to a physical skin is a 'defect catalogue', which must contain examples of each type of leather, showing the unacceptable defects and



Leather grading tools

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flaws. This should be supplemented by written descriptions or diagrams.

Note that SATRA does not set the quality standard; this is set by mutual agreement between the leather supplier and the customer. The most important aspect of this standard is that it is fully understood by both parties; in this case the tannery and shoe factory.

SATRA consultants then train the quality inspection personnel at both

companies, ensuring that they are competent in using the five-point leather grading system. This technique enables trained inspectors to recognise the grade into which each skin should be placed. Each grade represents a spread of five percentage points of exploitable leather, when compared to a 100% quality standard, and defines the level of usability that can be expected if this standard style was to be cut from it.

Because both sets of quality inspection personnel from the tannery and the shoe factory use the same assessment technique and agree on the standard, there should be little variation in their assessments. This in turn means fewer disputes and arguments. The supplier needs to agree a standard with each customer to enable the quality inspection personnel to apply the correct grade.

## Annual re-accreditation

Once the quality personnel have been trained by SATRA, a different consultant will return to the factory or tannery for the accreditation procedure. Each grader is then checked to ensure that the correct level of competence is achieved and that the methods taught by the consultant are still being used. If the audit is successful, the company receives a certificate, as will each leather grader.

Accreditation lasts for one year. Subsequently, we visit the company to re-audit and, if appropriate, re-accredit. This process ensures the level of competence is maintained and that any changes to the standard are reflected in the modified grades applied. It also allows SATRA consultants to include additional customers' standards in the scope of accreditation as necessary.

SATRA accreditation now extends to close to 50 shoe manufacturers and tanneries, including some of the biggest leather suppliers in the world in such countries as: China, USA, Argentina, Thailand, Mexico, UK, Taiwan, Dominican Republic and Vietnam.

## Help from SATRA

Leather assessment is a key step in the production of footwear and can have a major impact on the profitability of the company. SATRA can assist members in this through selection of operatives, training and accreditation for those companies that achieve the required level of competence.



UK size 8 inside quarter template

For further information on leather grading training and accreditation, please contact Steve Rose. Email: [man.bus@satra.co.uk](mailto:man.bus@satra.co.uk).