Electrodry Upholstery cleaning

Electrodry Carpet Technician Training
Module 3

Cleaning Misconceptions

There are many misconceptions related to upholstery cleaning.
It is frequently heard that:

- Upholstery is too difficult to clean
- It is expensive if we make a mistake
- There are too many fabrics on the market, so it is better not to touch them
- Some fabrics don't clean well, no matter what we do
- Some customers can be fanatical about their furnishings are impossible to please

- All of the above is true if the upholstery cleaner does not have the required knowledge to do the job

Equipment required for the upholstery cleaning

- Kirby vacuum with Zip Brush (Upholstery Tool)
- C8 Handmit
- Brush (horse grooming brush preferred)
- Funnel & Measuring jugs
- Bucket
- Atomiser spray bottles (500ml and 1 litre bottles)
- Clean cloths
- Canvass drop cloth
- Hot water extraction machine with upholstery tool
- Clean terry towelling cloths

Upholstery Cleaning Equipment

Fiber Types – Cotton

- Grows from the flower and seed of the cotton plant
- It is easily dyed and is relatively colourfast
- It is a very absorbent fibre and for that reason needs assisted drying
- It will withstand high water temperatures, but cannot be cleaned with high alkaline cleaning agents (pH 10.5+)
- It is best cleaned with a neutral cleaning agent (pH 4.5-8.5)
- Can be permanently stained by sweat and soiling
- A binder present in cotton plants that can dissolve in water-based solutions and cause browning is called Lignin.
- Can be subject to browning, which can be prevented by controlling the amount of moisture applied, pH of the chemicals used and rapid drying

Indian or Haitian Cotton

- Incompletely ginned (milled) cotton. Still contains some seeds from the cotton plant
- Used as a “designer” fabric due to the looks of the dark seeds in the fabric
- The brown specks found in these fabric contain tannin, which is a vegetable dye to run, causing intense staining
- These fabrics require special treatment and attention both when cleaning and drying

Fiber types - Wool

- Protein/Animal fiber
- It has unique properties of strength, durability and flame resistance
- It is absorbent and can hold moisture even though the surface may feel dry
- Can be damaged by using very hot water or very hot dry solvent
- Can be easily stained by food acid dyes
- Should be cleaned with a product with a pH range OF 4.5 to 8.5. If a high pH cleaning product is used then an acid rinse must used to neutralized the cleaning product

Fiber types - Linen

- Made from the fibres of the flax plant
- Strong and absorbent. Dries faster than cotton
- Often combined with cotton or rayon/viscose. Rayon is a fibre made from re-constitutes wood or plant material. It is a cellulosic fibre but highly refined and behaves like polyester.
- treatments can be used

- Some linen fabrics have been subject to minimal “finishing” and contain high levels of lignin
- Linen is easily dyed with acid dyes and but will often fade or dis-colour faster than cotton
- It will withstand very high cleaning temperatures, but water should be used with care when cleaning
- Highly subject to cellulosic browning, especially raw, undyed or organic linen.
- Can be stained by sweat and soils removal

Fiber Identification - Polyester

- A man-made polymer extruded in molten state
- It is fairly inexpensive
- Minimal water absorbency, but attracts oils
- It is easily cleaner with hot water extraction cleaning and most soils are readily removed. It also dries fast
- Can be strained oils in sweat and other oils due to its Oleophilic properties. As the result will yellow with age dry solvents may need to be used for removal of oils
- Often used to manufacture microfiber, which is a man made fibre finer than a silk. Microfiber is used to make Macrosuede fabrics, and “linen look” fabrics.

Upholstery cleaning systems – On – site Dry Solvent Cleaning

- Dry solvents are volatile solvents that totally evaporate
- Dry solvent-based solutions are the safest and most effective solution for removing most body soil
- Can be performed in one of 2 steps:
  - The solvent is sprayed onto the fabric and is immediately wiped or blotted off with a dry piece of white clean towelling. It is a very effective method for quick cleaning. It is also very effective with spotting of already clean or new furniture
  - Using a dry solvent extraction machine - (**Note** ordinary hot water extraction equipment cannot be used with dry solvents.) This is essentially the same as hot water extraction cleaning but using an odourless mineral spirit (dry solvent) instead of water

Upholstery cleaning systems: On–site Dry Solvent Cleaning

- Dry solvent cleaning using an on-site dry-cleaning machine is essentially redundant because:

  - The cleaning process does not remove water soluble soils
  - The solvent cannot be heated this reducing cleaning performance
  - Very expensive due to the cost of solvent and there are potential health hazards due to the odours from the solvent
  - Solvent can affect many glues on fabric backings
  - Dry solvent extraction machines are very expensive and costly to maintain
  - It is simply not as effective as wet cleaning

Dry Cleaning – Dry Solve E

- Should be used for lounges likely to be subject to cellulosic browning
- Vacuum lounge before cleaning
- Apply Dry-Solve E using an atomizer spray and vigorously wipe away using a clean, white cotton cloth
- 750ml to 1 litre of Solvent will be required per seat
- Results will not be as effective as hot water extraction cleaning however cellulosic browning will be avoided
- Wear gloves and clean in a well-ventilated area.

Upholstery cleaning systems – Hot water extraction cleaning

- Water is injected into the fabrics and excess cleaning solutions, water and suspended soil is removed through a wet-vacuum
- Water injection should occur at approximately 100 psi of pressure
- The use of a detergent pre-spray will allow extra time for soil suspension to occur, which gives a better cleaning result
- Most effective system for heavy soiling
- Can be slow drying, promote dye migration and browning

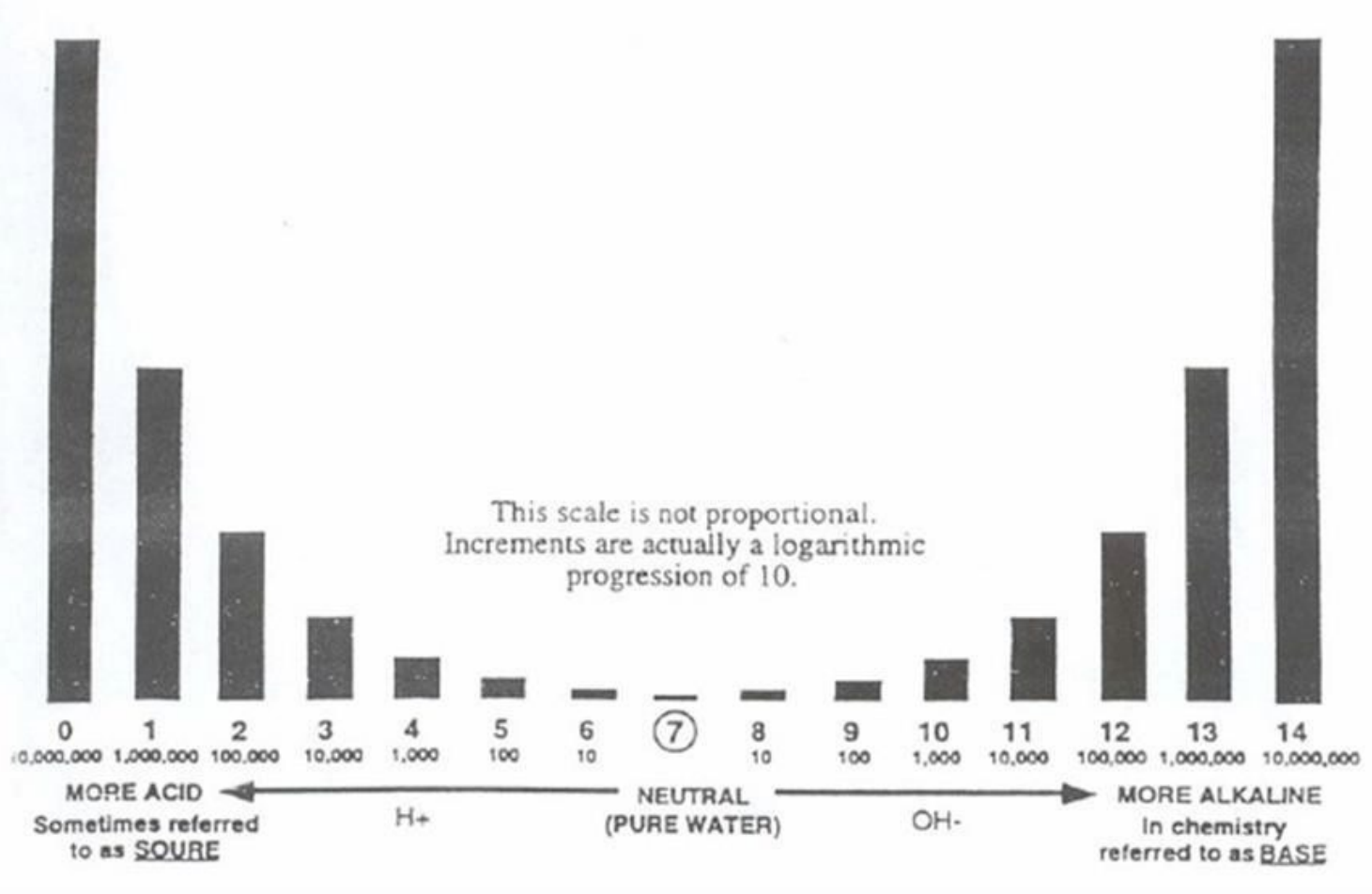
Pre-Inspection and Testing

- The first and most important step in upholstery cleaning
- Always pre-test fabrics for colour (dye) stability
- In the inspection look for things that could cause problems during or after cleaning such as:
  - Age, fading and colour loss
  - Stains and abrasion (wear)
  - Rips and Tears
  - Metal or wood trims that could cause staining
  - Anything else that could adversely affect the success of the job. Remember: upholstery fabrics that have excessive soiling may be permanently discoloured or stained

Pre-Inspection and Testing

- Complete the inspection form on the receipt noting:
  - The type of stain/damage
  - Location of the damage
  - Level of soiling
  - Other factors such as fading etc.

The pH scale


This scale is not proportional.
Increments are actually a logarithmic progression of 10.
0
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2
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8
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9
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10
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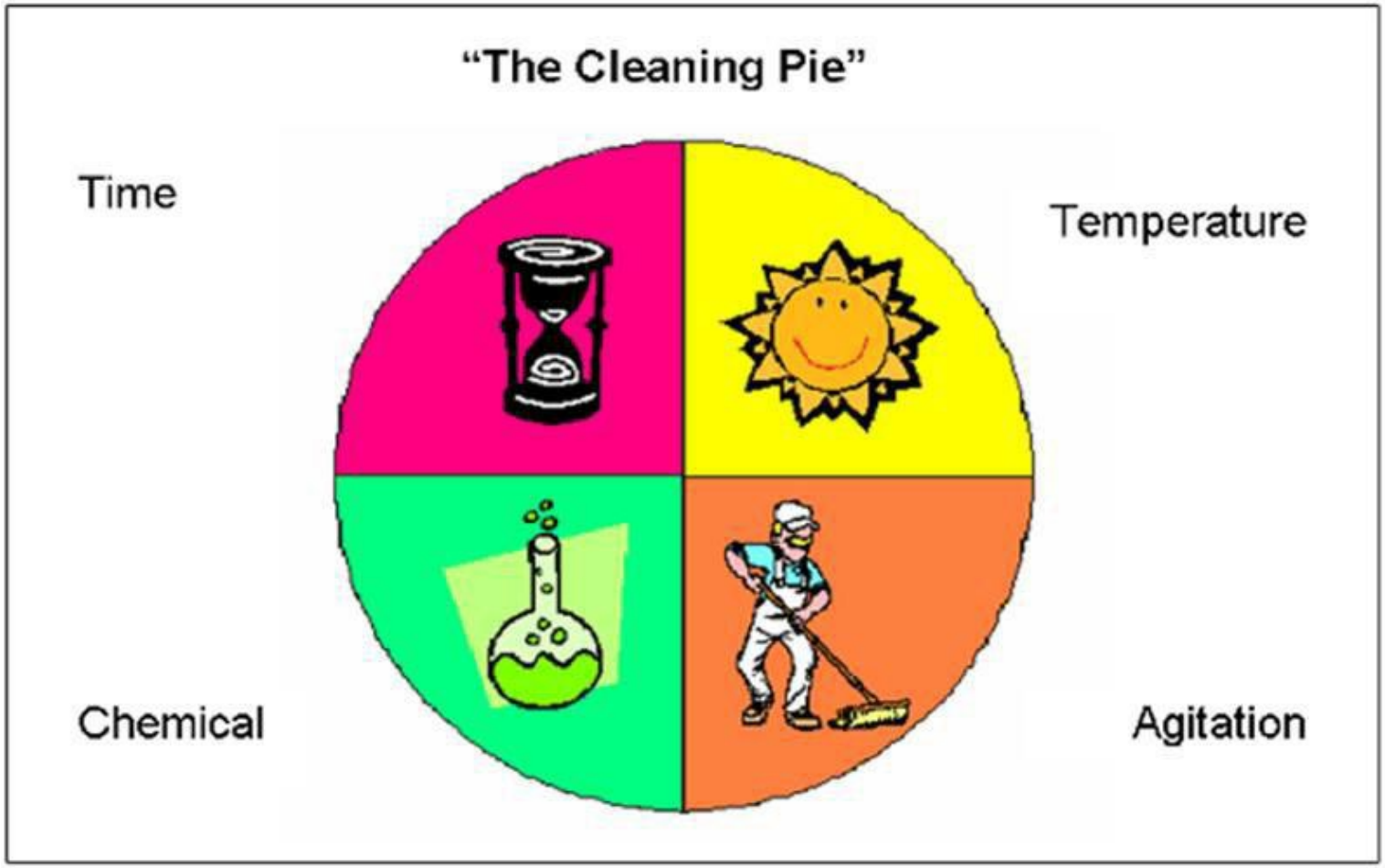
11
10,000
12
100,000
13
1,000,000
14
10,000,000
MORE ACID
Sometimes referred to as SOURE
H+
NEUTRAL
(PURE WATER)
OH-
MORE ALKALINE
In chemistry referred to as BASE

The pH Cleaning Chemicals

- Dry solvent do not contain water so they have no pH
- High pH chemicals can cause damage to fabrics. They can:
  - Unset dyes resulting in dye migration
  - Promote cellulosic browning
  - Cause browning to wool fabrics
  - De-luster cotton and some synthetic fabrics
- Performance plus is pH neutral in concentrate
- Dry-solve has no pH, but can be considered as Neutral
- E1 has a pH of 9.5 to 10
- Electrodry Pre-spray has a pH of 10.5 to 11

The Chemistry of Cleaning – T.A.C.T. – The Cleaning Pie



T.A.C.T. – The Cleaning Pie

- Time-the time required dwell for chemicals to be most effective. Some chemicals require no dwell time and others 15 to 20 minutes

- Agitation-Helps distribute cleaning products and loosens soils for extraction. Can occur in the pre-treating and cleaning process

- Chemical-the choice of the correct chemical for the type of fabric and the cleaning process. Determination should be subject to the type and level of soiling

- Temperature-Heat is one of the most important factors in cleaning. The hotter the temperature the better the cleaning result
  - NB: High temperature will damage some fabrics

The Chemistry of Cleaning - T.A.C.T. – The Cleaning Pie

- Soil is made up of three basic categories:
  - Dry soils
  - Water-soluble Soils
  - Oils and Fats

- Dry soils will vacuum out. Water soluble soils will rinse out. Oils and fats must be dissolved or turned into a solution, emulsion or suspension before they can be extracted out

The Cleaning Process – Step 1 - Vacuum

- Follow the pre-inspection
- A dry vacuum is required to remove the dry soils
- If dry soils are mixed with water in the hot water extraction process, they absorb water becoming heavy as they turn to mud. As mud, soils are much harder to remove

Step 2 – Removal of Oily Soils

- Oily soils are best broken down with dry cleaning solvents
- Dry cleaning solvents are most effective at breaking down the oily soils that accumulate from body and hair oils that commonly soil upholstery
- Apply Drysolve E using an atomizer spray. Agitate and wipe off with a C8 hand-mitt
- Drysolve E will not cause colour run and will totally evaporate

Step 3 – Soil Suspension

- Apply Performance plus to the lounge suite at a dilution of 32:1 with water
- Agitate into the fabric with a soft brush. This will help distribute the chemical and loosen soils
- Allow a dwell time of at least 10 to 20 mins before commencing extraction
- Performance Plus will encapsulate (surround) the soil allowing for easier removal of the soil from the fabric
- If spot cleaning is required during the cleaning process for synthetic fabrics, use E1 in small amounts

Step 4 – Hot water Extraction

- Hot water extraction cleaning should be completed 100 psi of pressure
- Water should be 60 to 70 degrees Celsius in temperature. Slightly hotter than “tap hot” hot water is desirable
- Employ a 50% overlap on each pass and undertake a “dry pass” afterwards
- “Towel down” the fabric with a clean white towel after cleaning to promote drying
- Use a fan where possible to promote drying – most clients have a pedestal fan that can be very effective to promote drying

Drying

- To expedite drying
  - Minimize water use
    - Using the right cleaning products and agitating the cleaning products on application will improve cleaning performance, reducing the water required for cleaning
    - Use hot water (not boiling water as this will affect the upholstery cleaning machine)
  - Stack cushions to allow maximum airflow
  - Use a fan
    - Ask the customer for a pedestal fan
  - Increase airflow
    - Open window or turn on the air conditioner