NSF Standard 50 Joint Committee
Equipment for Swimming Pools, Spas, Hot Tubs and Other Recreational Water Facilities
Background/Current State

- NSF 50 addresses materials, chemicals, components, products, equipment and systems related to public and residential water facility operation.

- NSF 50 includes criteria for assessment of materials and products such as spa shell, liners, plastic materials etc. For material safety, corrosion resistance, and performance, UV weathering strength, impact, tensile strength, durability, etc.

- Manufacturers, facility operators and officials want a list of NSF 50 Listed materials and parts acceptable for pool/spa use.
Issue

- There is demand in the recreational water industry for methods and reference standards that can provide non-biased, test based criteria for assessment of materials, parts and components that can be more readily used and incorporated into various NSF 50 products and equipment.

- The material makers want it easier for product and system manufacturers to more quickly find/source components and materials that are already tested/listed.

- Manufacturers, facility operators and officials want a list of NSF 50 Listed materials and parts acceptable for pool/spa use to help them use known materials that have already been audited, tested, listed for pool/spa use.
The NSF 50 Chemicals and Materials Task Group has been working on this issue. Most effort has gone into creation of the very complete and conservative material health safety criteria (for ingestion, inhalation, dermal/ocular risk).

This work is ready for scientific peer review/input.

The other half of the work of the Task Group was the functional verification and/or performance testing of the materials and chemicals.
NSF previously developed test methods and standard references to evaluate some materials such as plastic molding materials, liners, etc.

- The criteria includes common industry reference standards such as PVC, CPVC, PE, PP, ABS, etc material physical property standards used to quantitatively assess plastic materials for strength, toughness, durability, just as NSF 50 does for the products made from materials.

- These methods and others, could be added to NSF 50 for those material manufacturers that wish to evidence conformance and help product makers easily find listed materials/parts more quickly and help product manufacturers save time and money on their product certification.
The NSF/ANSI Standard 50 Joint Committee could add the appropriate performance standards for various plastic materials to NSF 50.

The material health safety criteria is already in NSF 50 Section 3 and Annex A, and the corrosion resistance criteria is already in NSF 50 Section 3.

All that is needed is addition of the material property performance testing criteria or method (i.e., for PVC it is ASTM D1784, for ABS it is ASTM D3965, for PE it is ASTM D3350, etc.) as is done with other NSF stds.

This will make it faster, easier and save product manufacturers money by helping them source materials that have already been tested for pool/spa use.
Would NSF 50 JC Chem/Mat. TG like to ballot this now?

- Add material and product references to NSF 50 - Section 1.5 Normative references, Section 3

NSF/ANSI Standard 50 (add language below)

Section 3.7 Certified Materials

The following materials for fabricating recreational water products shall be evaluated to the material health safety and corrosion resistance requirements of Section 3 of this Standard and tested for physical properties in accordance with the following criteria:

- ABS-ASTM D3965
- CPVC-ASTM D1784
- PE-ASTM D3350
- PP-ASTM D4101
- PPS-ASTM D4067
- PVC-ASTM D1784
- PVDF-ASTM D3222
Would NSF 50 JC Chem/Mat. TG like to ballot this now?

- Add material and product references to NSF 50 - Section 1.5 Normative references, Section 3

NSF/ANSI Standard 50 (add language below)

Section 3.7.1 Materials UV weathering resistance
Materials, for which a manufacturer wishes to claim UV weathering resistance, shall be tested for compliance with the 70% impact and tensile strength retention after UV exposure in accordance ASTM G154.
Would NSF 50 JC Chem/Mat. TG like to ballot this now?

- Add material and product references to NSF 50 -Section 1.5 Normative references, Section 3

NSF/ANSI Standard 50
Section 1.5 Normative references
(ballot in complete standard name)
- ABS-ASTM D3965
- CPVC-ASTM D1784
- PE-ASTM D3350
- PP-ASTM D4101 and ASTM D5857
- PVC-ASTM D1784
- PVDF-ASTM D3222