

USD Materials Working Group Charter

This Working Group Charter establishes the Scope and intellectual property terms used to develop the materials identified in this Working Group Charter for the Project. Only Project Steering Members, General Members, as applicable, that Joined the Working Group Charter will be bound by its terms and be permitted to participate in this Working Group.

1. Working Group Name. USD Materials

2. Working Group Deliverables. This Working Group will create:

X Specifications. There are two options for specification development. The “Community Specification” mode is designed specifically for a repository-based workflow that is familiar to developers while incorporating specification development due process and best practices. The “Traditional” mode uses a governance model that is based on traditional approaches to standards and specification development. The Traditional mode includes a choice of copyright and patent licensing options so you may select the options best suited to your goals. [Check Community Specification Mode or Traditional Mode]

□ Community Specification Mode.

1. Governance. The Working Group will operate in accordance with terms and policies of the Community Specification materials set forth at <https://github.com/CommunitySpecification/1.0>.

2. Working Group Scope. As set forth in the Working Group repository’s Scope.md file.

X Traditional Mode.

1. Governance. Traditional Mode uses the governance rules as set forth in Appendix A.

2. Working Group Scope. Universal Scene Description (USD) is an established open source technology that forms a foundation for 3D content authoring, interchange and transmission, thereby empowering a broad range of creative efforts and end-user experiences. Reliable interchange of materials is a complex problem that requires standardization of a common description framework for materials that provide enough flexibility and descriptive power to meet the needs of creative and simulation applications.

Scope: The Materials Working Group will define the strategy for the description of materials in OpenUSD. Its initial focus and first deliverable will be the USD Material Interchange Specification: the set of pattern and BSDF nodes comprising the MaterialX standard libraries.

The Working Group may form sub-working groups to strategize around topics such as:

- a. Material models to describe light transport (e.g. UsdPreviewSurface)
- b. Material interchange with other formats, e.g. glTF PBR, potentially by defining a limited subset of the full MaterialX standard library
- c. Material models to describe non-visual, non-surface properties such as broader EM-spectrum, acoustics etc.

- d. Neural representations of the above
- e. Color consistency, where appropriate

3. **Approved Deliverables:** The Working Group's first Approved Deliverable will be Version 1.0 of the USD MaterialX Interchange Specification. This will take the form of the description and behavior of the set of nodes and nodeGraphs in the MaterialX standard libraries, independent of any particular implementation backend. This Working Group will define the UsdShade schema that wrap the MaterialX standard library, and will reference the MaterialX specification on the Academy Software Foundation Github to define their behavior. The Working Group will feed back to the ASWF MaterialX TSC to propose changes to the MaterialX specification necessary for the complete, normative description of node behaviors.

Other Documentation: In addition to the Approved Deliverables described above, the Materials Working Group may also develop non-normative educational, marketing, and informational materials, as well as white papers, to accompany any Approved Deliverables and to facilitate understanding and adoption of the Approved Deliverables. These documents will not undergo the Approved Deliverable process. All marketing materials should be developed in collaboration with, and approved by, the Marketing Working Group and Legal committee. The Working Group may also develop reference source code implementations of new features that have been formally approved for inclusion in the USD MaterialX Interchange Specification and contribute those to the OpenUSD and MaterialX Repositories, subject in each case to approval by the relevant projects.

Out of Scope: Development of new MaterialX functionality beyond what is approved OpenUSD and MaterialX projects. Development of a normative specification of MaterialX itself or any portion thereof. Other areas not identified as in scope are out of scope.

Additional Working Group Provisions: The Working Group may also work with other organizations that have liaison relationships with the AOUSD. As indicated below, the Working Group will operate under (1) the Traditional Mode Governance, as supplemented by the Alliance for OpenUSD Process & Procedures, available on the Alliance's website; (2) the W3C Mode, as supplemented by the Alliance's Process & Procedures; and (3) Apache 2.0 for any source code contributions to the Working Group.

4. Copyright Licensing. Each Working Group must specify the copyright mode under which it will operate prior to initiating any work on any Draft Deliverable or Approved Deliverable other than source code or datasets. The copyright mode for this Working Group is: [Check one box]

Copyright Grant to Project, as set forth in Appendix B, Copyright Policy Option 1.

Creative Commons Attribution 4.0, as set forth in Appendix B, Copyright Policy Option 2.

Open Web Foundation 1.0. (Only for those Working Groups selecting the Open Web Foundation mode for patent licensing).

5. Patent Licensing. Each Working Group must specify the patent mode under which it will operate prior to initiating any work on any Draft Deliverable or Approved Deliverable other than source code or datasets. The patent mode for this Working Group is: [Check one box]

- RAND Royalty-Free Mode, as set forth in Appendix B, Patent Policy Option 1.
- International Mode, as set forth in Appendix B, Patent Policy Option 2.
- Open Web Foundation Agreement 1.0 Mode, as set forth in Appendix B, Patent Policy Option 3.
- W3C Mode, as set forth in Appendix B, Patent Policy Option 4.
- No Patent License. No patent licenses are granted for the Draft Deliverables or Approved Deliverables developed by this Working Group.