Draft ID: [redacted]

Date: [redacted]

13. Construction products

Fields marked with * are mandatory.

1 Respondent background information

Before responding to the survey, please read the following documents (see links in the sidebar):

1. **Guidance Document**
2. **Use Mapping**
3. **Privacy Statement**

☑

- I have read and understood the information in the **Guidance Document** and **Use Mapping**.
- I agree to the privacy policy as set out in the **Privacy Statement**.

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* 1.1 **[Q1.0]** Select the EU language in which you will respond to the questions (the questions themselves will be in English only).

English

* 1.2 **[Q1.1]** Which of the following best describes you or your affiliation?

Select Citizen/individual if you are responding in a personal capacity.

Select Organisation if you represent an organisation (e.g. company) or other official role.

- ○ Citizen/Individual
- ◉ Organisation

* 1.3 **[Q1.2]** What type of organisation are you responding for?

- ○ Government organisation
- ○ Non-governmental organisation
- ○ Academic institution
- ◉ Industry association
- ○ Company

* 1.4 **[Q1.3]** What is the name of the organisation you are reporting for?

Text of 1 to 300 characters will be accepted

Japan Paint Manufacturers Association (This comment is intended to correct and supersede the previous submission made on [15/04/2026](Contribution ID: f2a56f7c-2e93-4a89-a578-3e3ff7b6d02a). Please consider this as the correct version.)

* 1.5 **[Q1.4]** Please name a point of contact ECHA can contact if needed.

Text of 1 to 100 characters will be accepted

A point of contact is needed for seeking clarification or justification for the consultation responses if considered necessary by SEAC.

For individual respondents, the contact's name is always kept confidential.

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* 1.6 **[Q1.5]** What is the email address for that contact point?

1.7 **[Q1.6]** If you submitted comments in the previous consultation on the Annex XV restriction proposal (Mar-Sep 2023), please list the comment numbers (e.g. #1234, #5678).

300 character(s) maximum

#4229

* 1.8 **[Q1.7]** Is your organisation national or international?

Organisations having activities in several countries (in EEA or globally) should choose "international".

- ◉ National
- ○ International

* 1.9 **[Q1.8]** What country are you (or your organisation) based in?

Individuals should choose the country where they permanently reside.

Respondents representing organisations, such as companies, should select the country where the largest share of their PFAS related activities occur.

Respondents representing other organisations may choose the country where the organisation is based in.

Japan (JP)

1.10 **[Q1.9]** How many members does your association have?

Provide the number of member organisations (e.g. for industry associations), or individuals (e.g. for trade unions).

96

* 1.18 **[Q1.17]** Are you providing information from the perspective of a **single organisation**, or **more broadly** (e.g. on behalf of multiple organisations or other broader perspective, such as, sector-wide view)?

The survey allows to provide information from a single organisation or multiple organisation perspective.

Select the single organisation perspective if your responses reflect the impact on the entity you are reporting for, where applicable.

Select the multiple organisation perspective, if you are submitting information that represents several companies (e.g. separate subsidiaries under one parent company or separate companies within the same sector or industry – such as in the case of industry associations).

- ○ I am reporting information for a **single organisation** – the responses provided reflect the impacts (e.g. losses) on the entity, which I am reporting for.
- ◉ I am reporting information **more broadly** e.g. for multiple organisations or a whole sector.

2 Information on use, sub-use, and application

Instructions

In the question below, select each SEAC evaluation level that you want to provide information on. For each selected evaluation level, specific questions open up.

When sharing information that is applicable to multiple evaluation levels assessed in the SEAC draft opinion, please consider each evaluation level individually and report the specific impacts and circumstances for that evaluation level.

If you have information on a use in this sector that is not considered under any of the SEAC evaluation levels, you can submit that information under 'other use'.

Please do only submit information under 'other use' if you are **certain** that your use does **not fall** under any of the SEAC evaluation levels listed below. Consult the use mapping document for a definition of each SEAC evaluation level.

If you are reporting as a parent company, please make sure that your responses are **not overlapping** with information submitted by a subsidiary of your company. If subsidiaries report separately, the information they provide should only reflect the impacts on that entity.

* 2.1 **[Q1.18]** Which specific use or application do you want to comment on?

Select all specific uses or applications (i.e. SEAC evaluation level) that you wish to comment on.

If your use or application is not explicitly mentioned under an SEAC evaluation level described in the use mapping, but it would reasonably be included in that category based on the definition, you may submit information for that SEAC evaluation level.

If your use is not covered by any SEAC evaluation level in the sector but you still consider it is covered within that specific sector evaluation, select 'other use'. If you want to provide information on multiple 'other uses' that are not covered by any SEAC evaluation level, you will have to submit a new survey form.

For certain evaluations, SEAC has considered an additional restriction option (RO3), for which there is a question.

- [x] **[13.01] Architectural coatings and paints**
- [ ] **[13.02] Coil coating**
- [ ] **[13.03] Polymer additives used for fire safety purposes**
- [ ] **[13.04] Film/foil for greenhouses**
- [ ] **[13.05] Polymeric PFAS – processing aids for the production of non-PFAS polymers/plastics**
- [ ] **[13.06] Bridge and building bearings**
- [ ] **[13.07] Window frames**
- [ ] **[13.08] Plumbing applications (wetted pipes and fittings)**
- [ ] **[13.09] Polymeric PFAS – surface protection**
- [ ] **[13.10] Side-chain fluorinated polymers – surface protection**
- [ ] **[13.11] Wetting/levelling agents in e.g. coatings, paints and adhesives**
- [ ] **[13.12] Non-polymeric PFAS used as processing aids to produce construction articles**
- [ ] **[13.13] Window film manufacturing**
- [ ] **[13.14] Other use as part of this sector (use not considered under the SEAC evaluations listed above)**

[13.01] Architectural coatings and paints

* 2.2 **[Q1.19]** What is or are the process(es) or product(s) PFAS (or an alternative to PFAS) are used in? How and why are they used?

Q1-19, 22, 30の回答の日本語訳は最後に有ります

Text of 1 to 2000 characters will be accepted

Briefly describe how PFAS (or alternatives) are used in your uses or applications. This should include e.g. the function provided by PFAS and the type of part/article/product they are used in.

If your use is covered by the scientific research and development exemption from the restriction (Article 67(1) of REACH) please indicate so.

PFAS are primarily used in high-performance fluoropolymer coatings applied as topcoats in coating systems for infrastructure and buildings.

Typical applications include urban bridges, high-rise buildings, coastal structures, and industrial facilities. These coatings contribute to the long-term protection and aesthetic preservation of concrete substrates in high-rise buildings, as well as steel substrates in bridges and other structures.

These coatings are applied as multi-layer systems consisting of primer, intermediate, and topcoat layers, each designed to fulfill specific functions. Primers and intermediate coats mainly ensure substrate protection and adhesion, while the topcoat maintains appearance and protects underlying layers from environmental exposure.

The topcoat limits the permeation of moisture, oxygen, and salts, thereby protecting the substrate and lower layers from degradation. It must also provide long-term colour and gloss retention, resistance to chalking, and prevention of film erosion under prolonged outdoor exposure.

PFAS-containing fluoropolymers, such as FEVE and PVDF resins, are used as binders in these topcoats due to their superior resistance to UV degradation, low surface energy leading to fouling resistance, and high chemical stability in harsh environments.

Importantly, the topcoat effectively governs the overall service life of the coating system. Degradation of the topcoat not only results in aesthetic deterioration but also increases environmental exposure of the underlying coating layers and the substrate, thereby accelerating their degradation.

As a result, PFAS-based coatings enable long-term maintenance of both substrate protection and aesthetic performance, which is essential for public infrastructure and buildings where durability, appearance, and maintenance intervals are critical.

* 2.3 **[Q1.20]** Do suitable alternatives exist for this use/application?

Suitable alternatives are those that are technically and economically feasible, safer for human health and the environment, and available in sufficient quantities.

- ○ Yes
- ◉ No
- ○ I do not know

2.4 **[Q1.21]** What is the availability of alternatives for this use/application?

Select all options that apply in general for this use/application and provide an explanation of each point in the next question.

between 1 and 4 choices

Select the option that best describes the overall situation for application(s) you described above.

If your response concerns multiple applications, you can provide more detailed information for each application and its alternatives in the question below.

Option 6 is available for stakeholders who do not have information on the availability of alternatives.

- [x] **1. Alternatives are not available due to insufficient quantities**: PFAS-free alternatives are not available in sufficient quantities for this use/application.
- [x] **2. Alternatives are not available because of safety concerns**: PFAS-free alternatives are not safer for human health or the environment.
- [x] **3. Alternatives are not available because of technical feasibility**: PFAS-free alternatives do not meet the functional requirements for this use/application.
- [x] **4. Alternatives are not available because of economic feasibility**: It is not possible to operate profitably using the alternatives.
- [ ] **5. None of the above - Alternatives are available**: There are suitable alternatives for this use/application. They exist in sufficient quantities, they are safer than PFAS, and they are technically and economically feasible.
- [ ] **6. No information on alternatives**

2.5 **[Q1.22]** Please give a justification for your responses above by providing an explanation for each of the four points. Make sure to name which specific application and alternative you are referring to:

1. **Sufficiency**: Are the alternatives available in a sufficient quantity for this use/application?

2. **Safety**: Are there concerns for risks on human health or the environment that could limit the substitution potential of alternatives?

3. **Technical feasibility**: Are there technical requirements for this use/application? How do potential alternatives perform against the requirements?

4. **Economic feasibility**: What is the impact of using the alternative on profitability? How much would switching to the alternative cost?

Text of 1 to 3000 characters will be accepted

The following justification refers to coating systems for infrastructure, including bridges and high-rise buildings, where long-term substrate protection and aesthetic performance are required.

1.Sufficiency
In appearance-critical public structures, both protection of steel and concrete substrates and long-term preservation of appearance are required. Fluoropolymer-based topcoats have a well-established global track record in meeting these requirements.
While fluorine-free coatings are available, no alternatives have demonstrated equivalent performance under severe conditions, including 20-30 year maintenance intervals, colour and gloss retention, low chalking, and

sustained substrate protection.
These applications are linked to critical infrastructure where durability and reduced maintenance are essential. Technically validated alternatives capable of delivering equivalent performance remain limited.

2.Safety
Environmental and health concerns associated with PFAS, particularly their persistence, are recognized. However, PFAS-free alternatives may introduce other risks at the system level.
Shorter maintenance intervals lead to more frequent recoating involving abrasive blasting, solvent-based coatings, and confined space work, increasing worker exposure to dust and chemicals. They also increase VOC emissions, CO_2 emissions, and waste generation over the lifecycle.
Earlier degradation may increase emissions including coating particles. In bridges and high-rise buildings, repeated maintenance increases scaffolding and restrictions, raising working-at-height risks and third-party exposure to dust, emissions, falling objects, and traffic disruption.

3.Technical feasibility
The topcoat plays a critical role in maintaining appearance and protecting underlying layers and substrates. Required performance includes colour and gloss retention, low chalking, and barrier properties against moisture, oxygen, and salts.
Fluorine-free technologies such as advanced acrylics, silicone-modified systems, and emerging technologies (e.g., Avantguard-type and Tetrashield systems) exist. However, sufficient long-term field evidence demonstrating performance equivalent to fluoropolymer systems under severe conditions is not available.
Demonstrating equivalence requires extended real-world validation and is expected to take at least 10–12 years. Equivalent durability and aesthetic performance remain technically unproven.

4.Economic feasibility
PFAS-free alternatives are not economically feasible on a lifecycle basis. Shorter maintenance intervals increase lifecycle costs due to repeated surface preparation, access systems, labor, traffic management, and waste handling.
While initial material costs may be lower, increased maintenance frequency and associated indirect costs, including traffic disruption, result in higher overall costs.

Therefore, economic feasibility should be assessed based on lifecycle performance rather than initial cost.

2.6 **[Q1.23]** How many years would it take to develop alternatives to a stage where they can be implemented for the use/application?

Only values of at most 20 are allowed

If you cover several applications in your response, provide an estimate that allows PFAS to be substituted in all of them.

If you cannot provide an estimate, do respond to the question.

12 years

2.7 **[Q1.24]** What is the total annual volume (tonnes) of PFAS used (or imported) for this specific use /application in the EEA?

Provide the annual volume (tonnes) for each type of PFAS used (or imported) in the EEA by your organisation, or by the organisations included in your response if reporting for a group. Do not include tonnages used outside the EEA.

	Annual volume of PFAS used

Non-polymeric PFAS		tonnes/year
Polymeric PFAS		tonnes/year
Fluorinated gases		tonnes/year

2.8 **[Q1.25]** If PFAS could not be used in this use/application, what would be the most likely impact on organisation(s) covered by your response?

Maximum 1 selection(s)

Consider a situation where PFAS could not be used in this use/application by you or your competitors (including articles imported from outside the EEA).

Select the option that best describes the situation for applications you described above. When responding on behalf of a group of organisations, choose the option that is most representative of the covered companies.

- [ ] Permanent closure of business or parts of it (including relocation outside EU)
- [ ] Temporary closure of business or parts of it (including relocation outside EU)
- [x] Continued operations with increased costs or lower quality
- [ ] Positive impact (e.g. business opportunity)
- [ ] No impact or minor impact

2.9 **[Q1.26]** What is the average annual gross profit in euros, based on the past three years, from business operations that depend on this PFAS use/application in the EEA?

The figure should include only profits for the organisation you are reporting for i.e. the reported profits should not include profits of any clients or other parties in the supply chain, as those are considered separately.

Report a value covering all applications you described in the response above. When responding on behalf of multiple companies, report a total value for all concerned companies.

Profits generated by companies outside the EEA should not be included.

€ / year

2.10 **[Q1.27]** If PFAS could not be used in this use/application, how many full-time equivalent (FTE) jobs would be lost in your organisation or the companies covered by your response within the EEA?

Consider a situation where PFAS could not be used in this use/application by you or your competitors (including articles imported from outside the EEA).

Report a value covering all applications you described in the response above. When responding on behalf of a group of companies, report a total value for all covered companies.

FTEs

2.11 **[Q1.28]** Please clarify how you have calculated your responses in the two previous questions above on profits and employment losses.

Text of 1 to 2000 characters will be accepted

Clarify your calculations and name any sources you may have used.

2.12 **[Q1.29]** If PFAS could not be used in this use/application, what is the magnitude of potential negative impacts on society, e.g. from lack of access or worse quality of products (in addition to impacts on employment and profit losses)?

Consider other societal impacts than profits or employment and indicate their expected magnitude.

Impacts are considered greater, for example, when they affect large populations or significantly reduce quality of life. There is no exact and objective definition of what constitutes each category -please provide your best estimate. This question is used to gauge the responses and SEAC will assess the impacts based on the information in the following question.

Do not include information on health and environmental impacts of PFAS itself.

- ○ Very low or none
- ○ Low
- ○ Moderate
- ○ High
- ◉ Very high
- ○ I do not know

2.13 **[Q1.30]** Please explain your response to question above, e.g. by describing the elements leading to your judgement on the magnitude of additional impacts. If possible, provide quantified or monetised estimates of the impacts.

2000 character(s) maximum

Describe additional negative impacts, such as changes in quality of life resulting from reduced availability or lower quality of products. It is sufficient to describe the impacts, but quantified or monetised estimated can also be provided.

Do not include information on health and environmental impacts of PFAS itself here, but in the general survey.

Restricting PFAS-containing fluoropolymer (FP) topcoats for coating systems used in bridges, high-rise buildings, and other structures would create societal impacts.

While environmental concerns associated with PFAS, particularly their persistence, are recognized, restricting their use in these applications would still create impacts.

FP topcoats are used because their superior weatherability, gloss retention, colour stability, and low film erosion allow repaint intervals of 25–40 years in severe conditions while preserving appearance.

These long maintenance cycles are important for cost efficiency, infrastructure availability, public safety, and decarbonisation.

Although fluorine-free systems such as advanced acrylics, silicone-based coatings, and technologies incorporating Avantguard or Tetrashield are promising, substitution with these alternatives does not yet provide

sufficient evidence of equivalent long-term performance

As stated in Q1.22, demonstrating this equivalence requires at least 12 years of development and validation.

If restrictions are introduced before validation is completed, asset owners may adopt shorter repaint intervals, increasing maintenance frequency.

This would increase lifecycle costs, disruption, worker exposure, material use, waste, and VOC and CO_2 emissions.

In these applications, emissions during use can be controlled. Application and maintenance are performed by contractors under containment, and waste is collected and treated by specialized operators. FP coatings exhibit very low chalking, and recoating is typically performed before degradation, limiting environmental release.

The societal impact therefore includes reduced infrastructure reliability, visual deterioration, higher maintenance costs, increased occupational risk, and delayed sustainability gains.

For these structures, an extended transition period is justified until fluorine-free alternatives demonstrate equivalent lifecycle performance.

3 Confidentiality and submission

3.1 **[Q1.32]** Indicate each section for which your response contains confidential information.

Select all the questions for which you consider your responses confidential.

The options below include all questions in the survey. Please note that some questions may be only visible depending on the response to another question.

- ☐ Respondent background information
- ☐ Information on use, sub-use, and application

Useful links

Guidance Document (https://echa.europa.eu/documents/10162/17091/upfas-seac-do_consultation_guidance-for-respondents_en.pdf/68d5b13b-d7d6-f14b-2c3e-9b3c07c98113?t=1765956675386)

Use Mapping (https://echa.europa.eu/documents/10162/17091/pfas_use-mapping_annex_to_guidance_for_respondents_en.pdf/e242dcf0-0aab-2619-234e-09445bb181c5?t=1765893415372)

Background Documents

Privacy Statement

Contact

https://comments.echa.europa.eu/comments_cms/Contact_REACH.aspx

Q1.19回答（日本語）
PFASは主に、インフラおよび建築物向けの塗装システムにおいて上塗りとして使用される高性能フッ素ポリマー塗料に用いられている。

代表的な用途には、都市橋梁、高層建築、沿岸構造物、産業施設が含まれる。これらの塗料は、建築物におけるコンクリート基材や、橋梁などにおける鋼材の長期的な保護および美観の維持に寄与する。

これらの塗装は、下塗り・中塗り・上塗りからなる多層塗装システムとして適用される。下塗りおよび中塗りは主に付着性および基材保護を担い、上塗りは外観の維持と外的環境から下層を保護する役割を果たす。

上塗りは、水分、酸素、塩分の透過を抑制することで、基材および下層塗膜の劣化を防ぐ。また、長期にわたる色彩および光沢の保持、チョーキングへの耐性、屋外曝露下での塗膜減耗の抑制といった性能も有する。

FEVEやPVDF樹脂といったPFASを含むフッ素ポリマーは、優れた耐紫外線性、低表面エネルギーによる防汚性、および過酷環境下での高い化学的安定性を有するため、これらの上塗りのバインダーとして使用されている。

特に重要なのは、上塗りが塗装システム全体の耐用年数を左右する点である。上塗りの劣化は、下層塗膜の環境曝露を増加させ、基材の劣化を加速させる。

その結果、PFAS系塗料は、防食性能と美観の双方を長期間にわたり維持することを可能にし、耐久性や維持管理間隔が重要となるインフラおよび建築物において不可欠な役割を果たす。

これらの用途は、重要インフラおよび建築物の長期的な健全性および安全性と直接的に関連しており、長寿命化および維持管理頻度の低減が不可欠である。現時点では、実環境条件下において同等の長期耐久性および美観性能を提供できる技術的に実証された代替手段は限られている。

Q1.22回答（日本語）
本説明は、橋梁や高層建築物を含むインフラ向け塗装システムに関するものであり、長期的な基材保護および美観性能が求められる用途を対象とする。

1. 十分性（Sufficiency）
外観が重要な公共構造物においては、鋼材およびコンクリート基材の保護と、外観の長期維持の両方が求められる。フッ素ポリマー系上塗り塗料は、これらの要求を満たすものとして、世界的に確立された実績を有している。
フッ素を含まない塗料も市販されているが、過酷な環境条件下において、20～30年の塗替周期、色彩および光沢の保持、低チョーキング性、および基材保護性能を同時に満たす同等の性能を示した代替技術は存在しない。
これらの用途は、耐久性および維持管理頻度の低減が不可欠な重要インフラと密接に関連している。現時点では、同等の性能を発揮できることが技術的に実証された代替手段は限られている。

2. 安全性（Safety）
PFASに関連する環境および健康への懸念、特にその残留性については認識している。しかしながら、PFASフリーの代替技術は、システム全体として別のリスクを生じさせる可能性がある。
維持管理間隔の短縮は、研掃、溶剤系塗料の使用、閉鎖空間作業を伴う再塗装の頻度増加につながり、作業者の粉じんおよび化学物質への曝露を増加させる。また、ライフサイクル全体でVOC排出量、CO_2排出量、および廃棄物発生量の増加を招く。
さらに、塗膜の早期劣化は塗膜粒子などの排出増加につながる可能性がある。橋梁や高層建築物においては、繰り返しの維持管理により足場設置や交通規制が増加し、高所作業リスクや、粉じん・排出物・落下物・交通影響による第三者への曝露リスクが高まる。

3. 技術的実現可能性（Technical feasibility）
上塗りは、外観の維持および下層塗膜や基材の保護において重要な役割を担う。求められる性能には、色彩および光沢の保持、低チョーキング性、水分・酸素・塩分に対するバリア性が含まれる。
アクリル系、シリコーン変性系、および新規技術（Avantguard型、Tetrashield等）といったフッ素を含まない技術は存在するが、過酷環境下においてフッ素ポリマー系と同等の性能を示すことを裏付ける長期フィールドデータは十分に存在しない。
同等性の実証には実環境下での長期検証が必要であり、少なくとも10～12年を要すると見込まれる。現時点では、同等の耐久性および美観性能の実現は技術的に未実証である。

4. 経済的実現可能性（Economic feasibility）
PFASフリー代替技術は、ライフサイクル全体で見た場合、経済的に成立しない。維持管理間隔の短縮により、表面処理、足場設置、労務、交通管理、廃棄物処理などの繰り返し実施が必要となり、ライフサイクルコストが増加する。
初期材料コストが低い場合でも、維持管理頻度の増加および交通影響などの間接コストにより、総コストは増加する。

したがって、経済性は初期コストではなく、ライフサイクル性能に基づいて評価されるべきである。

Q1.30回答（日本語）
橋梁や高層建築物、その他の構造物に用いられる塗装システムにおいて、PFASを含有するフッ素ポリマー（FP）上塗りの使用を制限することは、社会的影響をもたらす。

PFASに関連する環境上の懸念、特にその残留性については認識しているが、これら用途における使用制限は依然として影響を生じさせる。

FP上塗りは、優れた耐候性、光沢保持性、色安定性、および低い塗膜減耗により、過酷な条件下でも25～40年の塗替周期を可能にし、外観を維持できるため使用されている。

これらの長い維持管理周期は、コスト効率、インフラの供用性、公衆安全、および脱炭素化の観点から重要である。

アクリル系、シリコーン系塗料、およびAvantguardやTetrashieldを取り入れた技術などのフッ素を含まないシステムは有望であるが、これら代替技術への置き換えは、同等の長期性能を示す十分な実証をまだ提供していない。

Q1.22で述べたとおり、この同等性の実証には少なくとも12年の開発および検証が必要である。

この検証が完了する前に規制が導入された場合、資産管理者は塗替周期を短縮し、維持管理頻度を増加させる可能性がある。

その結果、ライフサイクルコスト、作業や交通への影響、作業者曝露、資材使用量、廃棄物、ならびにVOCおよびCO_2排出量が増加する。

これらの用途においては、使用時の排出は管理可能である。施工および維持管理は封じ込め下で実施され、廃棄物は回収され専門業者により処理される。FP塗膜はチョーキングが極めて少なく、通常は顕著な劣化前に再塗装が行われるため、環境への放出は抑制される。

したがって、社会的影響としては、インフラの信頼性低下、外観の劣化、維持管理コストの増加、労働リスクの増大、および持続可能性向上の遅延が含まれる。

これらの構造物については、フッ素を含まない代替技術が同等のライフサイクル性能を実証するまで、移行期間を設けることが正当化される。