

Binding Royaltys for ERC721

by granola

On Chain Royalties

By owning an NFT from a collection, one is bound to send ETH to transfer an NFT

All NFT transfers require ETH, breaking ERC721 standards to pay artists secondary royalties

On Chain Royalties

Opensea breaks

Blur breaks

Any contract that does not use a payable version of `safeTransferFrom` breaks therefore enforcing royalties

Disallowing Wrapping of NFTs stop subversion of royalty payments

On Chain Royalties (solidity)

```
/**
 * Override transfer function to enforce fixed unit royalty
 */

function safeTransferFrom(
    address from,
    address to,
    uint256 tokenId,
    bytes memory _data
) public payable override {
    require(_isApprovedOrOwner(_msgSender(), tokenId), "ERC721: transfer caller is not owner nor approved");

    require(!to.isContract(), "cant send to contract");
    require(msg.value >= royaltyPrice, "must transfer acceptable royalty to owner");

    (bool success, ) = owner().call{value: msg.value}("");
    require(success, "Transfer failed.");

    _safeTransfer(from, to, tokenId, _data);
}
```

Fail to Transfer – No Royalty Offered

5. safeTransferFrom (0x42842e0e)

safeTransferFrom

payableAmount (ether)

from (address)

from (address)

to (address)

to (address)

tokenId (uint256) +

tokenId (uint256)

5. safeTransferFrom (0x42842e0e)

safeTransferFrom

0

from (address)

0xa95B54C5490Ce6eb9b1F58B019CE9C9eeb1D4416

to (address)

0x0ce38060E71763F18af3d7860D170973411eDb6a

tokenId (uint256) +

3

Write

6. safeTransferFrom (0x42842e0e)


MetaMask Notification

Sepolia test network


outerEdgeLA → 0x0ce...Db6a

https://sepolia.etherscan.io

0xc3a...7C46 : SAFE TRANSFER FROM ⓘ

 ERC721 Fixed Royalty

DETAILS DATA HEX

 We were not able to estimate gas. There might be an error in the contract and this transaction may fail.

[I want to proceed anyway](#)

Total

ERC721 Fixed Royalty + 0.0285 SepoliaETH

Amount + gas fee Max amount: ERC721 Fixed Royalty + 0.0285 SepoliaETH

\$0.00

CUSTOM NONCE 5

Reject Confirm

Fail to Transfer – No Royalty Offered

[This is a Sepolia **Testnet** transaction only]

Transaction Hash:	0xea0f4c8b1c12d613658f10ff5d236bd39cf368776b6d4d002b9bba0e0921e50c
Status:	Fail with error 'must transfer acceptable royalty to owner'
Block:	3124678 1 Block Confirmation
Timestamp:	23 secs ago (Mar-19-2023 10:25:36 PM +UTC)
From:	0xa95B54C5490Ce6eb9b1F58B019CE9C9eeb1D4416
To:	0xc3aB592556959e252f23d1786D84977f96397C46
Value:	0 ETH (\$0.00)

Fail with error 'must transfer acceptable royalty to owner'

Transfer Success – Royalty Paid

5. safeTransferFrom (0x42842e0e)

safeTransferFrom

0.001

from (address)

0xa95B54C5490Ce6eb9b1F58B019CE9C9eeb1D4416

to (address)

0x0ce38060E71763F18af3d7860D170973411eDb6a

tokenId (uint256) +

3

Write

MetaMask Notification

Sepolia test network

outerEdgeLA → 0x0ce...Db6a

DETAILS DATA HEX

Site suggested > i

0.00018335

Gas (estimated) i

0.00018335 SepoliaETH

Unknown processing time

Max fee: 0.00018335 SepoliaETH

\$0.00

Total

ERC721 Fixed Royalty + 0.001183 SepoliaETH

Amount + gas fee

Max amount: ERC721 Fixed Royalty + 0.000183348 SepoliaETH

CUSTOM NONCE

5

Reject

Confirm

Transfer Success – Royalty Paid

Transaction Hash:	0x091a348a2be604f5d902442265cd0b6065d595867cb24ec0d0d815622fc9dddc
Status:	✓ Success
Block:	⌚ 3124666 4 Block Confirmations
Timestamp:	⌚ 43 secs ago (Mar-19-2023 10:22:48 PM +UTC)
From:	0xa95B54C5490Ce6eb9b1F58B019CE9C9eeb1D4416 📋
Interacted With (To):	📋 0xc3aB592556959e252f23d1786D84977f96397C46 📋 ✓ ↳ Transfer 0.001 ETH From 0xc3aB59...96397C46 To 0xa95B54...eb1D4416
ERC-721 Tokens Transferred:	📋 ERC-721 Token ID [3] ⬇ ERC721 Fixed... (ERC721...) From 0xa95B54...eb1D4416 To 0x0ce380...411eDb6a
Value:	💎 0.001 ETH (\$0.00)
Transaction Fee:	0.000112632000788424 ETH (\$0.00)
Gas Price:	1.000000007 Gwei (0.000000001000000007 ETH)